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# NAVAL POSTGRADUATE SCHOOL
# MONTEREY, CALIFORNIA

# THESIS

## ENTREPRENEURIAL PROLIFERATION: RUSSIA'S NUCLEAR INDUSTRY SUITS THE BUYERS MARKET

by

Thomas D. Whalen

and

Andrew R. Williams

June 1995

Thesis Advisor: Peter Lavoy

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The Soviet Union collapsed in December 1991, bringing an end to four decades of the Cold War. A system of tight centralized controls has given way to chaotic freedom and un-managed, entrepreneurial capitalism. Of immediate concern to most world leaders has been the control and safety of over 30,000 Soviet nuclear weapons. After 1991, the Soviet, centralized system of management lost one key structural element: a reliable "human factor" for nuclear material control. The Soviet systems for physical security and material control are still in place in the nuclear inheritor states - Russia, Ukraine, Khazakhstan, and Belarus - but they do not restrain or regulate their nuclear industry. In the chaos created by the Soviet collapse, the nonproliferation regime may not adequately temper the supply of the nuclear materials of the new inheritor states. This could permit organizations or states seeking nuclear weapons easier access to fissile materials. New initiatives such as the United States Cooperative Threat Reduction program, which draws upon U.S. technology and expertise to help the NIS solve these complex problems, are short-term tactics. At present there are no strategies which address the long-term root problems caused by the Soviet collapse. This thesis demonstrates the extent of the nuclear control problems in Russia. Specifically, we examine physical security, material control and accounting, regulation and enforcement, and criminal actions. It reveals that the current lack of internal controls make access to nuclear materials easier for aspiring nuclear weapons states.

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# ENTREPRENEURIAL PROLIFERATION:
# RUSSIA'S NUCLEAR INDUSTRY SUITS THE BUYERS MARKET

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# ABSTRACT

The Soviet Union collapsed in December 1991, bringing an end to four decades of the Cold War. A system of tight centralized controls has given way to chaotic freedom and un-managed, entrepreneurial capitalism. Of immediate concern to most world leaders has been the control and safety of over 30,000 Soviet nuclear weapons. After 1991, the Soviet, centralized system of management lost one key structural element: a reliable "human factor" for nuclear material control. The Soviet systems for physical security and material control are still in place in the nuclear inheritor states - Russia, Ukraine, Khazakhstan, and Belarus - but they do not restrain or regulate their nuclear industry. In the chaos created by the Soviet collapse, the nonproliferation regime may not adequately temper the supply of the nuclear materials of the new inheritor states. This could permit organizations or states seeking nuclear weapons easier access to fissile materials. New initiatives such as the United States Cooperative Threat Reduction program, which draws upon U.S. technology and expertise to help the NIS solve these complex problems, are short-term tactics. At present there are no strategies which address the long-term root problems caused by the Soviet collapse. This thesis demonstrates the extent of the nuclear control problems in Russia. Specifically, we examine physical security, material control and accounting, regulation and enforcement, and criminal actions. It reveals that the current lack of internal controls make access to nuclear materials easier for aspiring nuclear weapons states.

# EXECUTIVE SUMMARY

**Title:** Entrepreneurial Proliferation: Russia's Nuclear Industry Suits the Buyer's Market

**1. Background:** The collapse of the Soviet Union has left Russia and the other nuclear inheritor states with the formidable challenge of managing a vast nuclear industry that is ailing from neglect and outdated control methods. There are more than 950 nuclear sites throughout Russia and the other nuclear inheritor states, ranging from power plants to weapons dismantlement facilities, that are in questionable physical and administrative order. Poor economic conditions in Russia, breakdown of Soviet nuclear controls, rise of entrepreneurial criminal elements coupled with high international demand for nuclear materials have stimulated an illegal nuclear trade. There have been instances of weapons grade plutonium and uranium being smuggled out of the country. The quantity and quality (more weapons grade plutonium and uranium) of smuggled nuclear material have increased steadily over the past four years. International attention focused on the 1994 arrests in Germany involving materials ranging from weapons grade plutonium and uranium down to rare strategic nuclear related minerals and information whose origins are believed to be from within the Newly Independent States (NIS). There have been numerous documented cases of nuclear smuggling, and so it is important to realize that the new threat posed by entrepreneurial proliferation is not and can not be restrained using current nonproliferation regimes.

Given the Soviet collapse, our basic research question asks: What is the scope of the international nuclear proliferation threat created by the decaying nuclear industry within the NIS? To answer this we first examine the nature of the Soviet collapse and the absence of order that followed. The nuclear programs and institutions that existed under Soviet rule are still present, though some of their names have changed. Corruption runs rampant throughout the system, it weakens efforts to control the nuclear industry, this will be demonstrated in Chapter II.

The chaotic environment following Soviet rule was filled with corruption, criminal activity, and raw entrepreneurial spirit. Though emphasized throughout the thesis, Chapters III and IV concentrate on the internal and external criminal elements, including organized crime, corruption of officials, border control problems, and market demands for fissile materials. The international demand for nuclear materials has been and is being met by criminal elements operating within a corrupt social milieu.

Chapter V discusses some of the major assumptions of past and present nonproliferation programs. This is done to demonstrate the intended mission of these policies and how this role has often failed to prevent nuclear proliferation by determined actors. Through study of the Bank of Credit and Commerce International case, we will show how nonproliferation programs have been circumvented to meet the nuclear desires of determined nations seeking nuclear weapons. Second, we will demonstrate how these international regimes are ill equipped to handle the new proliferation threat posed by the collapse of the Soviet nuclear empire. The threat from the NIS today is one of non-state criminal actors attempting to obtain nuclear materials for resale internationally. Current nonproliferation programs and policies do not adequately address this aspect of the new proliferation threat.

The internal regulation of Russia's nuclear industry is outlined in Chapter VI. President Yeltsin's directives that establish specific authority over Russia's civil and military nuclear institutions will be examined to study Russia's efforts at preventing unauthorized nuclear exports from within its borders. Flaws in these directives and corruption within institutions, such as Minatom, will be analyzed to illustrated the internal obstacles facing resolution to Russia's nuclear problem. Chapter VI also details the background and effectiveness of current Russian security measures and material control and accounting programs. The results of this show that the safety aspects of the nuclear industry, based mostly on the "human factor," are being undermined by the systemic chaos existing throughout present-day Russia.

Chapter VII introduces the Cooperative Threat Reduction (CTR) program, also known as the Nunn-Lugar Act, which was designed to reduce the threat of weapons of mass destruction from the NIS. We outline specific spending programs supported under the CTR and demonstrate that these measures often fall short of anticipated results. The reasons the CTR generally fail are that most programs offered are mild, short-term tactics that provide treatment to symptoms of a larger, systemic problem. As a result, the major problems associated with societal decay persist and remain largely unattended by policy makers.

The concluding chapter offers mostly long-term solutions designed to address Russia's problems from different angles. Short-term solutions are limited to enhancement of the current nonproliferation regime and other quick fixes. However, we, as two Naval Lieutenants who face the operational reality as it exists today and will exist tomorrow, are concerned about providing solid evidence of the new proliferation threat posed by the collapse of the Soviet Union. It is believed that this evidence will stimulate.

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# I. INTRODUCTION

## A. MAIN THEMES

The sudden and catastrophic collapse of the Soviet Union left behind a legacy of over 30,000 nuclear warheads and hundreds of ill-protected nuclear storage and production facilities. The demise of the Soviet Union established four new nuclear states, Russia, Ukraine, Khazakhstan, and Belarus, spanning eleven times zones. The absence of Soviet central authority has created economic, social, and political chaos with rapidly increasing criminal activity. Diversions of nuclear materials are reported in the international press several times per week. Thousands of miles of loosely controlled borders are allowing entrepreneurs to smuggle extremely valuable nuclear and strategic commodities to eager buyers throughout the world. Simply stated, we face a new and potentially less predictable nuclear proliferation threat.

Imagine the following; Iraq subsequent to the Gulf War was operating a significant covert nuclear weapons program. It included 7,000 scientists, 20,000 workers, and an estimated cost of $5-10 billion dollars. They used multiple techniques to obtain weapons quality fissile materials, Electromagnetic Isotopes (EMIS), Chemical separation, Plutonium reprocessing, and Spinning centrifuges. Secret nuclear weapons program this size required an enormous clandestine logistical support system. Highly specialized equipment, such as nuclear triggers, computers, high-temperature furnaces, and electron-beam welders, needed to be imported overtly or otherwise. Hundreds of specialized buildings were constructed with massive amounts of energy available to the labs.

Much of the technical assistance that was imported from the West were dual-use in nature, but after the program was closely examined by UN inspectors, it was shown that these technologies had only one purpose, to build nuclear weapons. The UN inspectors have also estimated that the Iraqi program was 8 to 24 months away from nuclear weapons completion at the start of the Gulf War. Iraq faced numerous hurdles and great hardships in running its successful program. What needs to imagined here is the Iraqi case when the materials needed for nuclear weapons may now be readily accessible in Russia and the other inheritor states. Certainly the Gulf War would have been a completely different situation.

In the following chapters we discuss the environment that led to (and the magnitude of) the systemic collapse of the Soviet Union. The criminal influence within society, government, and the military industrial complex outlines the foundation of discussion on the diversion of nuclear materials. The nonproliferation regime targets nation-state actors as the entities spreading nuclear materials. The regime as a whole, expects nation-state actors to be the primary enforcement mechanisms. Russia is not able to effectively deliver this service, and so, the current nonproliferation regime cannot be expected to stem this new proliferation problem.

## B. CHAPTER SUMMARIES

Chapter II provides a brief description of the major system-wide problems the Soviet Union faced prior to its collapse. It will be seen that the extent of confusion is greater than that experienced by any nuclear power in history. The collapse was not merely an economic depression, but a society wide, systemic breakdown. This point is very important to our discussion because much of what the world assumes a society can accomplish depends upon an infrastructure that functions "reasonably well." We show that this infrastructure does not perform adequately and that the lack of administrative control and order are making nuclear diversions more possible.

Chapter III discusses the manner in which criminal and corrupt elements have been able to move into the power void furnished by the collapse. It will discuss in detail criminal access to fissile materials, as well as the criminal and corrupt elements operating within Russia and the other nuclear successor states. Appendix A is a compilation of four years of open-source accounts concerning criminal diversions of nuclear materials and it illustrates the scope of criminal activity in nuclear proliferation.

Chapter IV compliments Chapter III by illustrating the ease of which smugglers can and do move any materials internationally. Specifically, it shows how nuclear materials smugglers are able to transport their cargo through Europe, the Middle and Far East, without being detected. Appendix B consisits of four maps that illustrate both the actual routes that these smugglers frequently use, and the access that these smuggling routes provide to numerous nuclear test, research, and weapons facilities.

Chapter V summarizes the international mind set behind the specific programs and treaties as they went into effect. It is shown that the assumptions the international community uses as a frame-work for nonproliferation programs are the nation-state as "actor" in origin. While these are not bad assumptions since the actors have generally been nation-states in the past, if the nation-state no-longer functions effectively, these nonproliferation programs may also not function effectively. A brief case study is included in Chapter V to discuss the overall effectiveness of nonproliferation programs, illustrate the current demand for these materials, and show that those with the desire to obtain these materials will be difficult to deter. Appendix C contains excerpts from congressional testimony discussing the ease that non-government organizations (NGOs) are able to move contraband including nuclear materials, internationally.

In Chapter VI the regulation and physical security aspects of the nuclear industry within Russia and the nuclear inheritor states are examined. The purpose here is to address the possible short-comings present in these programs and determine if they currently possess the cohesion necessary to answer the security issues raised in the first four chapters. Material Control & Accounting (MC&A) practices are also evaluated and examined in light of the assistance Nunn-Lugar is attempting to supply to this region. Appendices D and E provide detailed explanations of MC&A and defense conversion programs and their specific focus of aid shall be.

Chapter VII deals directly with Nunn-Lugar, now known as the Cooperative Threat Reduction (CTR) program. We will discuss the use of CTR funds and the effect this aid has had on programs such as defense conversion and weapons dismantlement, in light of this new source of proliferation possibilities. Appendix F, describes the Department of Defense's position on all the programs discussed in Chapters VI and VII.

The conclusion section is titled "Recommendations" because many problems in today's dynamic world do not have simple answers. Physicists call simple equations linear and unanswerable questions "nonlinear." We believe the Soviet collapse represents a non-linear problem. The case study in this chapter, concerning drug smuggling, is an example of what happens when a linear solution is applied to a non-linear problem. Care must be taken to avoid this mistake in the case of the Soviet Collapse. Our answers deal with possible long-term solutions that may have a chance of solving these great systemic problems Russia and the inheritor states now faceing. Appendix G is a trade agreement between the United States and Russia that we feel represents a legitimate long-term solution the concerns discussed in this thesis.

## C. KEY FINDINGS

The **first** finding of this thesis is that criminal, military, and civilian entities within Russia and other new nuclear inheritor states possess access to nuclear facilities throughout the region. **Second**, individuals and organizations can, with relative ease, remove, transport, and smuggle various types of nuclear materials, technology and information to destinations in Europe, the Middle East, Asia, and the Americas. **Third,** we believe this smuggling is made possible by the chaotic conditions resulting from the collapse of the Soviet infrastructure. The physical security, police forces, and the political leadership are currently incapable of addressing these problems. **Forth,** since present nonproliferation arrangements and policies assume that a functioning government and orderly social infrastructure are necessary to facilitate nonproliferation policy implementation, this same nonproliferation regime may not be effective in the NIS. Until Russia and the inheritor states regain control and order, these nonproliferation programs will likely produce marginal results. **Fifth**, U.S. efforts to assist the nuclear NIS under the Cooperative Threat Reduction Act offers some short-term solutions, but may not address the long-term, systemic problems plaguing the NIS societies.

These five key findings lead us to believe that since nuclear materials, technologies and information are now readily available internationally, nations and non-state actors will, if they desire, be able to obtain these materials from this new and accessible fissile materials source.

# II

## A. BRIEF HISTORY OF THE SOVIET COLLAPSE

> "Our society is ripe for change, and the need for
> change has cleared its own road."
> Mikhail Gorbachev, 1987[1]

> "Workers of the world...WE'RE SORRY!"
> -sign at counter-demonstration during the
> seventy-second anniversary celebration of the
> Bolshevik Revolution in Moscow, November 7, 1989.[2]

To understand properly the new proliferation threat, one must first comprehend the systemic problems that the Soviet Union faced prior to its collapse. It was a society-wide infection that brought about the collapse and is responsible for the magnitude of depth of the crash. The various programs of the nonproliferation regime that were negotiated by nation-states, signed by nation-states, and implemented by nation-states, assumes in part, that nations are functioning reasonably well and can control their internal institutions. For a nation to fulfill its international treaty obligations it must have functioning institutions, this is a reasonable assumption. What will be shown here is that Russia and the other nuclear inheritor states are not functioning adequately in most areas, legal system, police and security forces, banking systems and many other areas. This leads us to question whether nonproliferation programs based on these assumptions can work. Lastly, to understand why the criminal elements and porous borders are so dangerous, we will present a picture of the environment from which these threats arose.

When Gorbachev came to power in 1985, he intended to create a kinder and gentler Soviet Union. He envisioned less corruption, more openness, and sustained economic growth. Instituted was some of the greatest political, social, and economic reforms attempted in recent Russian history. These reforms were in no way intended to undermine party influence or destroy the USSR as an entity. It was an effort to streamline an inefficient machine and get the Soviet Union back on track economically, socially, and in the sense of Lenin, spiritually. Gorbachev however, faced too much internal opposition from too many sectors, political, economic, and militarily to achieve success. The reform attempt failed, because of the many fissures within the Government and society. Many powerful factions did not want change and effectively stalled it. Nonproliferation regimes assume and require reasonable cohesion in governments to facilitate these nonproliferation programs. The Soviet Union did not possess the cohesion required in its institutions to save the Federation under Gorbachev's leadership. Russia and the other inheritor states do not currently possess the level of cohesion necessary to operate complex and highly technical programs to detect and deter the diversion of nuclear materials from their nuclear programs.

---

[1] Michael Kort, The Soviet Colossus, The Rise and Fall of the USSR (Armonk, New York, M.E. Sharp, 1993), 289-291.

[2] Ibid.

## B. THE SOVIET LEGACY

The Soviet Union was built upon the graves of her people, from the Bolshevik Revolution, to the collectivization of Stalin, to Hitler's Panzer Divisions and a self-initiated Cold War. For seventy years it was the fear of the whip and bayonet that pushed the Soviet peoples forward. The combined of the horrors of Collectivization, the Great Terror, World War II and the threat of nuclear war during the Cold War, are what supported the Soviet economy. This was and the succesor states still possess the institutions of a highly industrialized nation, with a skilled and educated work force. Yet it was and is unable to adequately feed its people. The the Soviet Union was a nation that at one time was the world's leading producer of oil, gas, cast iron, steel, and tractors. The USSR pioneered space exploration, had the largest natural gas distribution network, and the worlds deepest oil wells.[3] The Soviets maintained the largest merchant marines, and deployed one of the worlds largest and technically advance military forces in history. Most significantly, the USSR built and maintained a nuclear arsenal that was only rivaled and held in check by the American nuclear "TRIAD."

---

[3] Stephen White, After Gorbachev (Cambridge, Cambridge University Press, 1993), 103-148.

However by the late 1970's, it was evident that deep seated problems were growing and needed to be solved. The greatest of these problems was the rate of economic growth, which had fallen consistently from the 1950's to the early 1980's as illustrated in the following graph:

TABLE 2.1

Soviet economic growth, 1951-1985(average annual rates of growth, official data in percent, %)

| YEAR | Produced national income (GNP) | Gross indust. prodn. | Gross agric. prodn. | Labor prod'y in indus. | Real incomes per head |
|---|---|---|---|---|---|
| 1951-56 | 11.4 | 13.2 | 4.2 | 8.2 | 7.3 |
| 1956-60 | 9.2 | 10.4 | 6.0 | 6.5 | 5.7 |
| 1961-65 | 6.5 | 8.6 | 7.2 | 4.6 | 3.6 |
| 1966-70 | 7.8 | 8.5 | 3.9 | 5.8 | 5.9 |
| 1971-75 | 5.7 | 7.4 | 2.5 | 6.8 | 4.4 |
| 1976-80 | 4.3 | 4.4 | 1.7 | 4.4 | 3.4 |
| 1981-85 | 3.6 | 3.7 | 1.0 | 3.4 | 2.1 |
| (Gorbachev takes power) | | | | | |

This graph is based upon Narodnoe khozyaistvo SSSR 1922-1972 gg.(Moscow: Statisika, 1972), p.56, Narodnoe khozyaistvo SSSR za 70 let (Moscow: Finansy i statisika, 1987), pp. 58-59.[4]

It should be noted that these figures project a stronger picture then what may have been true. The figures failed to account for the increase in the population of about 0.9 annually during this time.[5] They also excluded the steady increase in "over reporting,"[6] which equaled a full three percent of total production by the 1980s or up to a third in the cases of cotton and road transportation.[7] These figures did not allow for price increases or a change in specifications. This practice of inflated bookkeeping led to the serious hidden problems that began surfacing in the late 1970s. By 1985 Gorbachev's administration had serious problems throughout their entire political, social, and economic institutions.

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[4] Ibid.

[5] Ibid.

[6] Kort, The Soviet Colosus; The Rise and Fall of The USSR, 151-289.

The real fact is that most Soviet production only exacerbated the crises as it did not produce legitimate, or real wealth. For instance, more tractors were made than there were workers to use them. The surplus tractors were too inferior in quality to world market standards to export. This inferior production quality is illustrated by the fact that more people were employed fixing and repairing farm equipment than were employed in producing farm equipment. The USSR produced twice as much steel as the United States, yet produced only a fraction of the finished goods.[8] In addition, while the Soviet industrial machine used 2 to 2.5 times as much energy, natural resources, and materials as the West in production, it still produced inferior goods.[9]

Compared to the rest of the world, the per capita standard of living fell from 56th place in 1976 to 70th place in 1982. They suffered from chronic declines in returns on investment, low labor productivity, and by the early 1980s, a relatively low and backward level of science and technology, placing the Soviets 10 to 15 years behind most western countries.[10] The Stalinist command economy had failed to produce a sustainable pattern of growth and the initial apparent prosperity (some 30 years worth), was to a large degree caused by poor book keeping practices, and excessive diversion of resources into military expenditures. The West is now approaching a post-industrial society, in which service industries and knowledge are key indicators of economic stability and modernity. Russia is being left behind. Seventy years of trying to instill socialism failed to create a just and effective society. When the society collapsed, so did the assumptions that nonproliferation programs base effective controls upon, those being a well organized, orderly and controlled society.

---

[7] White, After Gorbachev, 101-127.

[8] Ibid.

[9] Richard Sakwa, Gorbachev and His Reforms (New York, Prentice-Hall, 1990), 268-295.

[10] Ibid., p. 26-57.

Due to the huge Soviet bureaucracy, corrupt politicians, poor managers, and communist hard-liners who refused to assist the reforms, Gorbachev's goal of a more compassionate socialism and Soviet Union was destined to fail almost from the beginning. The following graph illustrates the severity of the Soviet collapse during Gorbachev's five effective years of governing:

TABLE 2.2

Soviet economic growth, 1986-1991 (official data in percent, %)

| | 1986-90 (average) | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 |
|---|---|---|---|---|---|---|---|
| National income produced | 4.2 | 2.3 | 1.6 | 4.4 | 2.4 | -4.0 | -15.0 |
| Industrial output | 4.6 | 4.4 | 3.8 | 3.9 | 1.7 | -1.2 | -7.8 |
| Agricultural output | 2.7 | 5.3 | -0.6 | 1.7 | 1.3 | -2.3 | -7.0 |

Sources: Narodnoe khozyaistvo SSSR v 1989 g. (Moscow: Finansy i statistika, 1990), pp.8-9; Ekonomika i zhizn', 1991, no. 5, p.9, and 1992, no.6, pp.13-16.[11]

The collapse in the Soviet economy was the overall result of many simultaneous factors. The crash, when it came, was greater in magnitude than the Great Depression's effect on America.[12] It was also something Gorbachev, the Soviet bloc, and Russian society as a whole could not experience and remain intact. The infrastructure of the military as well as the economy and body politic were severely shaken. The people had no corporate wisdom to fall back upon. All truth had been framed and supplied by the Party, so when the Party fell from legitimacy so did an entire belief system, based upon the Marxist-Leninist myth of socialism. The Russian state still has the parts needed for the machine to work, but cannot enforce effective nonproliferation policies and programs. Export controls will likely never be effective if a nation has little or no control over its borders, as is discussed in Chapter IV.

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[11] White, After Gorbachev, 101-127.

[12] The Great Depression in America forced unemployment rates up to between 30% and 50%, the stockmarket crashed, but the nation still worked.

It is not the purpose of this thesis to explain in depth how or why Gorbachev's reforms failed and caused the collapse of the Soviet Union. The real issue here is the new proliferation threat that is facilitated by that collapse. Nuclear proliferation for profit by those who have no political or moral agenda, is what is occurring in Russia today due directly to this collapse. This very brief synopsis explains how vast and rapid the crash was and still is. It is this current chaos that increases the likelihood of this proliferation threat. The Russian people and those in the nuclear successor states, have lost all that they believed in, and expected from their system. Their people will do what is necessary to survive. This thesis does not presume to pass judgment on these people nor their actions, its purpose is merely to delineate this very real threat, and described the chaos from which it is now arising.

## Conclusion

A nation must have the functioning institutions necessary, such as police forces, intelligence networks, science and technology industries, and leadership, to operate and execute its day to day functions. These are the basic "house-keeping" programs that keep the nation working, garbage collection, mail delivery, highway repair, and providing safety for its citizens. To operate the complex and technical programs that are proscribed under the nonproliferation regime requires another level of effeciancy that these nations do not currently possess. Russia and the NIS basic infrastructures are in disarry. Russia, due to the massive collapse, does not possess the capability to feed her people, and now we want her to insure the security of a massive nuclear industry. Export controls, CTR, Laboratory to Laboratory, and defense conversion may be effective programs for the United States but do little to address Soviet Unions systemic collapse. And as a result little can be done to stop individuals and criminal groups from diverting, transporting and selling fissile materials.

# III

The collapse of the Soviet Union has left the social, political, and economic arenas open to any entity to step in and fill the power vacuum. In the political arena in all of the successor states, ethnic nationalism has risen to prominence in many new political parties. In many other areas such as banking, produce, clothing, and weapons exportation, it has been criminal elements that move into the power vacuums left by the communist collapse. These criminal elements have permeated the society so completely, the legitimate governments of the NIS are unable to prosecute them effectively. As a result these organizations have de facto control over many of these nations industries, including possible access to the inheritor states nuclear materials. We reveal the extent of control organized crime groups hold within the NIS, and described the serious threat generated by criminals obtaining fissile materials for resale abroad.

## A. CRIME IN THE WAKE OF THE SOVIET COLLAPSE

Accounting to a U.S. Department of Justice study, there were 245,652 violent criminals serving time in state prisons in 1986. These criminals had victimized approximately 409,000 persons: about 79,300 had been murdered, 51,000 had been assaulted, and an additional 20,400 "other" types of violence were committed. Those criminals in prison in 1986 alone had killed nearly fifty percent more Americans than had died in the ten plus years in the Vietnam War.[13]

Violent crime is not the only criminal threat facing America today. It has been estimated that world wide trade in smuggled goods exceeded $200 billion dollars in 1994. Of that, more than $100 billion was illegal narcotics, and 90 percent of this total came into the United States that same year. To put these figures and the total volume into perspective, for the same year of 1994, internationally traded oil totaled $200 billion, and automotive products equaled $250 billion.

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[13] Wayne LaPierre, Guns, Crime, and Freedom (Washington, Regnery Publishing, Inc., 1994), 101.

The United States Justice Department estimates that various law enforcement bureaus stop about ten percent of the total drugs smuggled into the United States. When successful, these investigations lead to more than 100 cases a year where law enforcement officers are implicated or charged with corruption and corroboration.[14] This in light of the fact that the United States has been fighting a massive "war on drugs" for years.

These are just a couple of examples of the criminal problems and corruption a large nation faces on a daily basis. The United States is financially, socially, and economically sound, governed by a "rule of law." It has massive police forces, national guards, and military forces to deal with these threats directly, and it still cannot gain adequate control of its drug and violence problems. Given this, how much more difficult would it be for Russia and the other Newly Independent States (NIS) to maintain law and order after their economic, political, and social order has collapsed? As seen from the American example, crime in today's world is inevitable. In the Russian case we show that "inevitable" criminal activity when combined with access to fissile materials poses a threat of international significance.

Is the Russian state security system able to manage the criminal threat? If not, are the organized and unorganized criminal elements inside the nuclear inheritor states even interested in the nuclear materials? Is there a criminal element within the nuclear inheritor states that has the influence and financing to either purchase or take by force, nuclear weapons materials and technologies and then resell them on the open or black markets?

Initial evidence found in open sources indicates that there are very strong criminal factions and corrupt governmental elements within these states. It is evident that these elements not only desire to sell but are currently and actively involved in obtaining nuclear material, if they have not already done so. The significance to the discussion here is that these acquisitions and sales occur illegally. Are there currently nonproliferation programs that address this illegal activity by non-state actors. The answer is no. Internally, since the collapse of the Soviet Union there are effectively no internal enforcement agencies with enough resources to stop this either.

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[14] Berkeley Rice, Trafficking (New York, Charles Scribner's Sons), 191.

## B. COUNTER-ARGUMENTS

Critics tend to attack the above argument from several different directions. This chapter counters those arguments and delineates in a clear manner exactly how much control or influence criminal elements bring to bear over the military and governmental infrastructure. It will demonstrate to what extent these factors can or could adversely effect international stability and exhibit a serious international threat. Most major arguments fall into the following categories. . .we will demonstrate that they are incorrect.

1. There are no Russian organized crime groups of any significance, influence, or power. There are only small time regional thugs.[15]

2. The crime groups that do exist, as well as any other non-state actors and organizations (such as terrorists or political blackmailers), do not have, and cannot raise the capital necessary to purchase these types of materials.[16]

3. Crime groups do not possess the technical expertise to ascertain authenticity or turn any acquired materials into useful devices.[17]

4. There is no credible evidence that there is a market for nuclear materials, most purchases have been made by German secret police. It is their sting operations that are creating the perceived demand.[18]

5. There is no physical evidence that weapons grade materials have ever left or been successfully smuggled out of Russia. By July and August of 1994 this argument had been disproved with the discovery of weapons grade plutonium in Baden-Wuerttemberg.

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[15] Dieter Schroder, "BND Official Denies Existence of Nuclear Mafia," from *SUEDDEUTSCHE ZEITUNG*, in Daily Report Western Europe, FBIS-WEU-94-163, 21 August 1994, p. 8.

[16] Ibid.

[17] Peter Zimmerman, "Technical Barriers to Nuclear Proliferation," in Zachery S. Davis and Benjamin Frankel eds., The Proliferation Puzzle: Why Nuclear Weapons Spread and What Results, (Frank Cass, 1993): 345-355.

[18] Dieter Schroder, "The Situation is Not Yet Dramatic Enough," from *SUEDDEUTSCHE ZEITUNG*, in Daily Report International Affairs, FBIS-WEU-94-164, 24 August 1994, p. 4.

Germany's BKA (Federal Office of Criminal Investigations), and the United States Department of Energy (DOE), maintain that the plutonium is of Russian origin.[19] In light of this and numerous other discoveries this argument is no longer seriously considered.

6. The last major argument still within the scope of the following addresses the possibility that the Russians are creating this threat themselves to receive aid from the United States and Western Europe. This is aid that many believe they neither need or deserve.[20] This argument is supported by the fact that Moscow is currently producing new fourth generation fighter and attack aircraft to rival U.S. front line forces (as seen at the Paris Air Show this past year). Also in production are new light and heavy tanks, ships, and submarines.[21] Giving Russia more financial aid according to this scenario, will only allow them to spend more in areas they believe important. It is noted here that these arguments are proposed by a large range of experts; the intelligence community, law enforcement community, and nuclear science community.[22]

## C. RUSSIA'S CRIME SITUATION: HISTORICAL BACKGROUND, PRESENT SIGNIFICANCE

Russia for the past 500 years operated a shadow economy, or black-market, that grew into its own after the Bolshevik revolution of 1917.[23] Experts note that this type of criminal element is present in any country with a strong repressive regime. These criminal groups will play an important role in the average citizen's day to day life, but ultimately hold little financial and militant power when compared to the state. This could be said of Russia prior to the collapse in 1991 and to an even larger extent today.[24] Extorting money from business-persons is not on the same level of sophistication as acquiring and moving nuclear materials internationally.

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[19] Initialed report, "Nuclear Flea Market," from *DIE ZIET*, in Daily Report International Affairs, JPRS-TND-94-0006-L, 29 July 1994, p. 1.

[20] Schroder, "The Situation is Not Yet Dramatic Enough," FBIS, p. 4.

[21] Steve Gallant, "The Failure of Russia's Defense Conversion," Jane's Intelligence Review 6, no.7 (July 1994): 304.

[22] The open source materials will be found in Appendix A at the end of this text. This information will be referred to throughout the text and includes a substantial listing of most known cases of nuclear proliferation at this sub-state, entreprenurial level.

[23] Mikhail Heller and Aleksandr M. Nekrich, Utopia in Power (New York, Touchstone Books, 1992), 13-50.

Organized criminals in the NIS, like their counterparts in other countries control, specific spheres of influence such as prostitution, burglary, extortion, and drugs. This though, is the only real power that criminal groups can obtain and use.[25] This is not to say that there are not many of these groups to contend with, some 4,000 separate criminal groups have been identified as operating within Russia and the NIS by 1992.[26] Quantity does not necessarily reflect quality, or even a significant power and financial base. Realistically as far as criminal organizations go only the Colombian drug cartels, with income estimated in the billions of dollars, can afford the nuclear materials in question.[27] Few would argue that Russian criminal organizations control that amount of capital.

The cases reported have been brushed aside as a few disillusioned employees among the millions of employees still within the Russian nuclear weapons and research facilities, whose loyalty can be questioned.[28] As Mr. Shaposhnikov, the last defense minister of the USSR, stated in late 1991, that due to the loyalty problem, one hundred percent of nuclear weapons and materials, plus or minus five percent, were under control.

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[24] Charles Gati, The Block That Failed (Bloomington and Indianapolis, Indiana University Press, 1990), 191-221.

[25] Melinda Liu, "The FBI vs. Russia's Mafia," Newsweek, 25 July 1994, p. 28.

[26] This number reflects a major and dramatic increase in the overall total of criminal organizations operating in Russia and the NIS.Independant experts from the Russian research corporation, (RAU), published the 4,000 group figure. Also included in the study was the fact that more than 1,000 of these groups had inter-regional or international connections, displaying quite high levels of sophistication. This study is found in The Current Digest of the Post Soviet Press, 10 March 1993, p. 12.

[27] Rice, Trafficking, 155-161.

[28] Schroder, "BND Official Denies Existence of Russian Mafia," FBIS, p. 9-10.

It should be noted that this figure corresponds to a minimum of 1,500 weapons that may or may not be under any control at all.

### 1. Brain Drain: U.S. Assessment

The possible brain drain is also a legitimate threat or concern, especially since anyone of these capable Russian experts, can with little effort walk out of the country. These scientists and technicians may not be the best in the world when compared to what the West has to offer, but to a third world or developing nation, they could represent a "quantum leap" in technologically expertise. It now appears evident that these professionals can and will seek employment in areas other than Russia and the NIS. Their best marketable skill is knowledge that most international leaders do not want to see spread. North Korea was accused, in 1993, by the Russian press of attempting to recruit sixty-four Russian missile experts. The men in question were stopped from boarding a plane in Moscow, whose destination was Pyongyang. They indicated that their salaries were to be $3,000 a month. Their current pay is less than $20 dollars a month.[29] CIA reports released to the Chicago Tribune in October of 1993 quoted CIA officials as saying that China, Iran, and Iraq had followed the North Korean example by actively and successfully recruiting Russian nuclear scientists and engineers. The CIA went on to say that it appears that the Russian attempt to stop the exodus of scientists has basically collapsed, it is just far too easy to leave, and to take your notes with you.[30] National Security aids under the Bush administration indicated their findings led them to believe that many of these departing scientists were able to smuggle out high-tech weapons components, selling them to the highest bidder. The State Department concurs with this assessment.[31]

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[29] Seymour Hersh, "The Wild East," Atlantic Monthly (June 1994): 61-86.

[30] Editorial, "Russian Technology For Sale," Chicago Tribune, (October 1993). Currently Iran is still actively seeking nuclear power technology from Russia and China. The Clinton administration had hoped to stop sales of this nature to Iran when President Clinton visited Russia in May 1995. At this time it appears that the mission failed if not totally at least partially.

[31] Ronald Kessler, The FBI (New York, Pocket Books, 1993), 12-20, 71-75.

### 2. Brain Drain: Russian Assessment

Official statistics from the Counterintelligence Service of the Russian Republic show that there is an ongoing 'brain drain' of top scientists. The data demonstrates, just in pure numbers, that forty percent of the top theoretical physicists are working abroad, as are twelve percent of experimental physicists.[32] The demographic breakout of the data is more revealing. Of the remaining scientists in Russia, 13 percent would leave immediately, 40 percent would not rule out leaving, and 15.4 percent are firmly against leaving. Additionally, the age breakdown demonstrates that those willing to leave more readily are quite young. Willing emigrants scientists include 25 percent of those under age 30 and 67 percent of those under age 40. All totaled, "Almost 80 percent of young scientists are thinking of emigrating..." while 93 percent of those over age 50 wish to stay in Russia.[33]

The decline of personnel engaged in the sciences began as far back as 1986, where there was a drop of four percent. This trend is also seen in the number of graduate students engaged in science: dropping from 97,400 in 1985 to 92,100 in 1990. In 1991, with the Soviet collapse, the number of scientists suddenly dropped twenty percent. From 1986-1991, 979,000 personnel dropped out of Russian science, a decline of over thirty percent. In fact, with the sudden Soviet collapse there developed a chance for new scientific mobility. Over 629,000 R&D scientists found themselves outside Russian territory, free to stay in the new state or leave for foreign employment. By January 1993, personnel working in Academic and industrial science dropped 24 percent and 30.4 percent respectively.[34]

While many of the scientists are going abroad, a good share of them are moving from the scientific community to the industrial and entrepreneurial sectors within Russia.

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[32] "TV Program Underscores Problem of Brain Drain," from MOSCOW RUSSIAN TELEVISION NETWORK: 'PLANERKA,' in JPRS Report Central Eurasia, JPRS-UST-95-008, 15 February 1995, p. 1.

[33] Ibid.

[34] "Statistical Information on Russian Brain Drain," *Khimiya I Zhizn*, in JPRS Report Central Eurasia, JPRS-UST-94-025, 21 October 1994, p. 1-2.

Even so, the emigration of scientists is increasing and is expected to remain steady for the next couple of years. One Russian official feels that since science employment trends lag behind economic trends by about three years, the decline will persist, with the youngest and most active leading the exit. Additionally, the decline in the scientific community is not being managed by the government, but instead following "the laws of Darwinian natural selection."[35] There is no planning or management of the scientific resources, leaving the uncontrolled decline in the hands of market forces. The departure of the intellectual elite is depriving Russia of a resource badly needed, where economic recovery and political and social stability are intrinsically linked. If present declines are not checked, the Russian government will "[no] longer have to discuss preservation of the nation's scientific potential, but how to create it anew."[36]

One conclusion drawn from Russia's brain drain is that short-term collateral deficiencies due to decreased scientific inputs can be covered by the older and remaining scientists. However the medium and long-range implications for Russia are more serious. Long-term research and development for civilian industry and more so military industry, will suffer from stifled innovation and foreign competition. Indigenous scientific capabilities, the backbone of long-term economic and intellectual growth, do not develop over night and must be maintained.

A second conclusion, and one that is directly applicable to this thesis, is the transfer of knowledge from Russia to other parts of the world. CTR funds for the NIS in general help create the International Science and Technology Centers (ISTC) is each state. However, only Russia has seen a marked investment in this enterprise. The overall, long-term nature of the ISTC program not clear. According to CTR directives, the length of the ISTC program is up to three years with no procedures or guarantees for continuation. What happens when the ISTC funds dry up is anyone's guess, but the unemployment of hundreds or thousands of nuclear scientists seems highly likely.

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[35] Ibid., p. 3-4.

[36] Ibid., p. 5.

Based on the U.S. and Russian brain drain assessments, the arguments that disgruntled employees incompetently selling material and technology are much less dangerous than a strong criminal organization doing the same is intuitively incorrect.

### 3. Rebuttals

The argument that disgruntled employees incompetently selling material and technology are much less dangerous than a strong criminal organization doing the same.[37] Georgiy Kaurov, Information Chief of the Ministry of Nuclear Energy, went as far as to claim that this "speculated" movement of nuclear materials has been created completely by the press looking for a great story. Kaurov and Interior Minister Viktor Yerin state unequivocally that there have been no thefts of nuclear material, and most definitely one cannot prove that anything seized to date can be directly or positively identified as having been removed from Russia.[38]

Paul Muenstermann, Vice President of the German BND (Federal Intelligence Service) has stated that his organization has no knowledge of a "nuclear Mafia" existing either inside or outside of Russian borders. Konrad Posner told a reporter of the Hannoversche Allgemeine Zeitung (March, 1994), that the "Russian Mafia" had no access to nuclear facilities and that there was no evidence that other countries had access to or recruited Russian nuclear experts.[39] The difficulty is how does one determine reliable estimates or indications of the existence of undetected nuclear smuggling and the groups participating in it?

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[37] David M. Lowy, "Understanding Organized Crime Groups in Russia," (Department of National Security Affairs, Naval Postgraduate School, June 1994): 42-57.

[38] It should be noted that Russian officials, and the Soviet officials before them denied, signing a non-aggression pact with Nazi-Germany, denied selling T-55 tanks and artillery to Serbs/Bosnian Serbs, denied murdering entire villages and using nerve gas on Afghanistan rebels (combatants and non-combatants), as well as denying the dumping of spent nuclear reactor cores in the Baltic Sea and Arctic Ocean. Having misled in the past, their claims lack a semblance of veracity today. Christain Schmidt-Haeuer, "Isotopes From the Preserving Jar," from *DIE ZIET*, in JPRS Central Report Germany, JPRS-TND-94-006-L, 29 July 1994, p. 9-11.

[39] Ibid.

It has been argued that there is no legitimate international market for nuclear materials and technologies. First, 10.5 kgs of uranium (HEU and LEU) should sell on the open market for as much as $825 million dollars, and in theory considerably more on the black market.[40] Prices such as this would seriously strain non-state actors' financial reserves. Second, in the German cases, three of the four samples of weapons grade materials that made it to the West were purchased by undercover agents conducting "sting" type operations. These operations were specifically designed to trap sellers and their couriers. In Bremen, Germany, the countries chief prosecutor feels there is no nuclear market in Germany and that the intelligence officials are only enticing criminals to bring extremely dangerous materials onto German soil.[41]

The arguments against entrepreneurial nuclear proliferation, that have been briefly stated above may initially seem credible. But when viewed in light of the large body of evidence concerning nuclear material diversions, which is taking place internationally, the real significance of this legitimate danger will become overwhelming.

### 4. Organized Crime in Russia and the NIS Regions

The Soviet black market and criminal elements were highly integrated into all aspects of Soviet society, including the upper echelons of government.[42] As noted earlier, these groups reached their state-sponsored height under Brezhnev, and with the failure of Gorbachev's glasnost and peristroika were able to move into the powerful position they maintain today.[43] This position is being sustained through brutal tactics and violence.

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[40] Zimmerman, "Technical Barriers to Nuclear Proliferation," 345-355.

[41] In light of these sentiments the same officials all agree that these materials do indeed appear to be coming from facilities, research or otherwise, that are located inside Russia and the other Newly Independent States. It is their belief it is the odd disgruntled or rogue employee perpetuating the crime, not an organized syndicate. Bruce W. Nelan, "Formula For Terror," Time, 29 August 1994, p. 46-51.

[42] Heller and Nekrich, Utopia in Power, 603-652.

Combined with a shrinking police force and an inadequate legal system, full of corruption and loopholes, has helped cement these criminal elements into society.[44] When added to the fact that government officials can be bribed, threatened, or murdered, prosecution is easily avoided.[45] In this unique environment one cannot expect the international nonproliferation regime to work, no one is effectively in control.

Now these crime groups have gone international.[46] According to the Federal Bureau of Investigation (FBI), connections inside the United States alone for Russian and Eurasian organized crime groups include the cities of New York, Miami, Los Angeles, and Chicago.[47] Total international connections are currently being traced, with unknown resources in Israel, Belgium, Poland, and Austria, but it could be years before all international connections are discovered.[48] As these groups expand and grow, increased organizational size and complexity will point towards a greater level of sophistication and technical resources. These levels would not be approachable in the near future were it not for these international contacts and Russian societal collapse.

Another indication of increased sophistication and complexity according to the Russian Corporation RAU, larger groups are absorbing many of the smaller, less powerful groups similar to conglomerates taking over smaller businesses.[49] This allows the crime

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[43] Hersh, "The Wild East," 61-67.

[44] Ibid., 68-71

[45] The intimidation of government officials is not the only tactic these groups and others use, most recently several news personalities have been gunned down on Moscow streets. It is believed to be because of their vocal opposition to these gangs, as well as government and military corruption at all levels. These murders have even included American Embassy officials, this subject will be discussed in greater detail later in this same chapter.

[46] Gati, The Block That Failed, 191-221.

[47] Kessler, The FBI, 73-75.

[48] Ibid.

[49] Ibid., 12-75.

group to expand efficiently into other lucrative areas. However, the question still remains, do these criminal elements or individuals possess the financial power and coercive strength to broker international deals involving nuclear materials?

### 5. Supply and Demand in Entrepreneurial Proliferation

It has been argued that the amount of capital necessary to purchase nuclear materials on the international market is staggering. Even if a state meets the advanced technological requirementss, the costs will be in the hundreds of millions or billions of dollars to finance the venture.[50] When a country desires nuclear weapons its program must move underground, in which the costs associated can rise exponentially, as was seen in the case of Iraq shortly after the Gulf War. Iraq had massive oil revenues and could afford a black program.[51] The financial drain upon the economy was significant and may not be acceptable to the populace of either a more politically liberal or less wealthy nation. However, North Korea proved that technology and financial resources may not always be necessary to achieve weapons status. Here, an economically crippled and relatively isolated, backward, third world nation conducted what appears to be an extremely successful nuclear weapons program. North Korea has effectively forced international leaders to negotiate with it on a super-power level. Both of these cases occurred under the full auspices of the NPT, the IAEA, export controls, and safeguards programs in effect and working as intended. The IAEA did become suspicious of North Korea which led to further investigation of its program, which brought us to the current situation. What this really indicates is that the United States, and the world, can be misled by a country that has the desire to do what is necessary to obtain nuclear weapons technology. This thesis states that with the collapse of the Soviet Union, nations intent on aquiring nuclear weapons will now find the process much simpler. A Department of Energy Threat Assessment report on the activities of the "Russian Mafia," released in November of 1993 included the following findings:

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[50] Zimmerman, "Technical Barriers to Nuclear proliferation," 345-355.

[51] Iraq was in fact not running one expensive nuclear weapons program, but rather several expensive nuclear weapons programs simultaneously. It was attempting to build breeder reactors to produce plutonium, and were attempting chemical refining, ultra-high-speed spinning centrifuges, and electromagnets to process U-238 into weapons grade U-235. Estimates, from UN inspectors, now place the multiple Iraqi programs at two years or slightly less from a successful weapon at the out break of the Gulf War. It is anyone's guess how far away Iraq is now after its recent major set back. William Burrows and Robert Windrem, Critical Mass (New York, Simon & Schuster, 1994), 1-22.

1. 4,000 crime groups of various size and influence are operating inside of Russia. This corresponds with most other estimates from intelligence agencies world wide.

2. A significant number of groups have merged some or all activities with corrupt government and police officials.

3. Forty percent of private businesses and sixty percent of state-owned companies have been corrupted by organized crime.

4. The "Russian Mafia" may own half the nation's commercial banks, and 50 to 80 percent of the shops, hotels, warehouses, depots, and service industries in Moscow. Businessmen are forced to pay on average 15 percent of their income for protection, either to a private security force (ex-KGB and GRU officers) or to the Mafia.

5. Corruption within the officer corp of the army appears to be high. In February of 1993, Russian officials announced that 3,000 officers had faced disciplinary actions for questionable business practices, and an additional forty-six general officers faced court-martials on corruption charges. The corruption was the selling of large quantities of all types of conventional weapons.

6. The organized criminals now have access to the latest in communications and surveillance technologies and equipment.[52]

It can be seen that an organized Russian Mafia does, in fact, exist. From the above few examples, it can be supposed that they have access to large financial resources through their alleged national and international dealings. This combined with the mismanagement of $1.4 billion, between 1992 to 1994 from the U.S. State Department's Agency for International Development (A.I.D.), and one is talking big money.[53] Based on a U.S. Embassy estimate in Moscow, it appears that through sophisticated counterfeiting techniques, the organized criminal elements absconded with between thirty and fifty percent of the funds for privatization. This accusation has been supported by CIA and AID officials.

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[52] Hersh, "The Wild East," 61-86.

[53] Russian organized crime groups obtain access to these funds several different ways. But most rely mainly upon Russia's own fiscal irresponsibility and decentralized banking system to fraudulently get low-interest loans which they intend to never repay, others use computer "Hackers" to crack into small bank systems, looting what they can

Conclusion

In reality these criminal groups do possess the financial resources necessary to purchase nuclear materials and the coercive power to remove by force these materials if need be. Organized crime in the NIS is huge, there are 4,000 seperate groups, that control 50 percent of the regions banking, 60 percent of the government owned businesses, and collect at least 15 percent of 80 of the total profits of all privately owned businesses. They also possess ties to politicians, special forces within the military, and contacts around the world, including the United States.[54] Organizations such as this have not been taken into account by the world community and its nonproliferation regime.

### 6. The Death of Michael Desaro

The Russian organized crime elements apparent financial strength, with their militant or violent enforcement and coercive power, make them a very dangerous entity in the nuclear black-market arena. Their influence can be seen in the following case.

On 13 November 1993, Michael Desaro, an American Embassy contract employee was found dead in a blood filled bath tub in his Moscow apartment. The apartment had been stripped of everything of value. The Moscow police autopsy "revealed" that Mr. Desaro had died of heart failure and no crime had been committed. Upon protest by American Embassy officials for a further investigation, the police stated that Mr. Desaro was actually gay and threw a gay party the night before his body was discovered. They held to their conclusion that he had probably died of heart failure, case closed. American doctors, upon review of the autopsy concluded that there was no presence of heart

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before being discovered. And lastly simply taking advantage of corrupt financial managers, which skim off the top (this example is what the UN has faced world wide in their aid programs, percentages, some times very large, simply disappear into some ones pocket). Ibid.

[54] Ibid.

disease. However, too much of the body was missing to accurately determine the cause of death.[55] The full weight of the U.S. Embassy and State Department could produce no further results. Mr. Desaro had at the time of his death been compiling documentation of the previously mentioned theft of privatization funds by the Russian "Mafia" for the embassy and the AID organization. One is left to his or her own conclusions, but it appears that organized crime can do practically anything inside Russia with impunity, to include circumventing export controls or many other nonproliferation programs in effect today as is seen in detail in Chapter VII.

Externally the situation is just as grim. Internationally known weapons dealer Alfred Jaekle was arrested in Tengen on Lake Constance, with 100 million dollars available for the purchase of weapons grade plutonium and "other" nuclear materials for an unidentified group.[56] Due to diplomatic reasons the two Spaniards and one Colombian arrested have not been publicly identified, but speculation could point to the North Koreans, Iraq, or a host of other nuclear hopefuls. In an interview with Welt Am Sonntag, in Bonn, a woman identified as Dina N., with close business ties to Mr. Jaekle stated that she could mediate the purchase of nuclear materials, or place one in contact with the proper military people and scientific institutions for direct negotiations. Swiss sources confirm she also has ties with the Russian military, and had at one time worked for the KGB, and that she still maintains that relationship today.[57]

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[55] Ibid.

[56] Alan Cowell, "Questions Raised on Russian Plutonium Deal," New York Times, (17 May 1995): Editorial Section, and Schroder, "The Situation is Not Yet Dramatic Enough," from *SUEDDEUTSCHE ZEITUNG,* in Daily Report Germany, FBIS-WEU-94-164, 21 August 1994, p. 4.

[57] A.L., Initialed Report, "Weapons Grade Plutonium Impounded in Weichs," from *WELT AM SONTAG,* in Proliferation Issues, JPRS-TND-94-016, 7 August 1994, p. 10-11.

## D. ARE NUCLEAR MATERIALS TOO EXPENSIVE IN TODAY'S NEW WORLD ORDER?

We have seen that criminal groups possess cash and international connections, but are these financial capabilities and close relations with ranking military and governmental officials even necessary? The Russian economy as seen in Chapter II, is abysmal. The once elevated workers and scientists in the nuclear industry are now paid nothing, granted no privileges, and still expected to maintain the most significant and sophisticated weapons and research facilities next to that of the U.S. in the world. When a technician makes the equivalent of $100 dollars a month, how much does one need to bribe them? In America, the most prosperous nation in the world, the entire Walker "spy ring" was bought for what amounted to a few thousands of dollars.

No matter what the estimated costs of nuclear material and technology in the legitimate nuclear market may be, the asking prices on the non-legitimate nuclear market have been no where near the projected value of the material involved. On November 27, 1993, in Bursa Turkey, three Georgians were arrested while attempting to sell 4.5 kgs of uranium. The asking price was $150,000 dollars, the true value was estimated at a value of several million dollars.[58] The groups selling are asking what appear to be very reasonable prices. Granted there have been a large number of hoaxes, but according to the German BND, most of their cases were legitimate.[59]

What is visualized in the smuggling of nuclear materials is a picture of warheads weighing hundreds, if not thousands of pounds, or large containment vessels of plutonium. This is not necessarily the case. In actuality, the gray metal plutonium comes in two-pound bars, or gravel-like pellets,[60] and is highly toxic, one grain can cause lung cancer. However, its radioactive alpha rays do not penetrate very far, so thick lead shields are not required for transportation.[61] The above combined with the fact that since the collapse of the USSR, Russia has thousands of miles of nearly unmonitored border. A good smuggler will choose a route with little danger of detection.[62]

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[58] Editorial, "To Ban The Bomb," The Economist, v. 2, 27 August 1994, p. 10-11.

[59] Schroder, "BND Official Denies Existence of Nuclear Mafia," FBIS, p. 9-10.

[60] Bruce W. Nelan, "Formula For Terror," Time, 29 August 1994, p. 45-55.

[61] Ibid.

## E. WHAT IS THE TRUE NATURE OF THE DEMAND FOR NUCLEAR MATERIALS?

Nations in the past have sought to aquire nuclear weapons. We believe that nations will continue this behavior in the future. This section shows that there are entities - states and non-state actors - attempting today to aquire fissile materials and technologies. They want to sell these items to others or to use for their own purposes.

To determine if there is a market for these materials we must show that there are legitimate cases outside of the highly publicized German instances. After all, has the West, in running sting operations of the size and sophistication of those in Germany, artificially created a perceived demand for these materials. If so, then all threat assessments may be greatly exaggerated. Russian officials to this day claim no significant evidence has arisen indicating any of the material seized positively originated in Russia.[63] They also claim that all nuclear material is positively accounted for, but this may not be the case. (See Chapter VI.) No accurate records had been kept before 1984 in most of Russia's nuclear of industries. (See Chapter VII.) For several years super tankers carrying oil have been sold on the black market by using doctored manifests. Documents will frequently read, 120,000 rubles for 10 water faucets, the next bill will read 10 rubles for a thousand water faucets. There is no accounting accuracy or even general accountability.[64] Of course if one cannot prove at a specific point in time that one had something in their possession, then one cannot prove that they no longer have it either![65] This is one the point we are making: IAEA accounting practices cannot be applied where no accurate accounting and control have been enforce.

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[62] This type of smuggling may now not even be necessary. As nations leap into Russia with aid and organizations of all types, these provide legitimate covers for the movement of nuclear and other sorts of materials. The Iranians have established legitimate air freight operations inside several of the Newly Independent States. These cargo planes are loosely regulated. In fact flights leaving the country back to Iran with less than 15,000 lbs of cargo do not need custom inspectors to monitor loading, or even get a written confirmation of what it is being shipped.

[63] Schmidt-Haeuer, "Isotopes From The Preserving Jar," JPRS, p. 9-11.

[64] Julie Corwin and Douglas Stranglin, "The Looting of Russia," U.S. News and World Report 116, no. 9, 7 March 1994, p. 36.

Russian Admissions:

What do the Russians publicly admit? Mikhail Yegorev, Interior Minister Viktor Yerin's first deputy and commanding militia general in the fight against organized crime, stated that over the past one-and-a-half years, authorities have investigated 74 cases of removal of radioactive material from various sites. Yegorev's investigators have successfully captured one entire group of nuclear thieves.[66] Sergey Stepashin, head of the Federal Counterespionage office (formerly the KGB), acknowledges that his forces repelled 53 separate violent "terrorist" attacks aimed at nuclear facilities.[67] The terrorists were armed with automatic weapons, flat-bed trucks, and large powered cranes. Finally, Russia's Justice Minister, Yurij Kalmykov revealed in Cyprus in June of 1994, that organized crime groups "appear" to possess most of the components needed to build a bomb. (If they have not already built and sold one or more of its components on the black-market.) After his statements Kalmykov was visited four separate times by Counterespionage officials to learn the details of his documented evidence.[68] This is another example of the lack of inter-agency communications, accountability, and controls within Russia.[69]

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[65] The above example goes even further, the water faucets may not even be real faucets. Smugglers had been illegally moving pure nickel out of Russia, formed as water faucets. Another scam is to set up a false company, get "loans" from pre-established accounts in Switzerland, using strategic or precious metals for collateral. The fake company then defaults on the fake loan and the "collateral" is then seized. This is similar to how the drug cartels laundered money in the 1980's.

[66] Schmidt-Haeuer, "Isotopes From The Preserving Jar," JPRS, p. 9-11.

[67] A.L. Initialed Report, "Weapons Grade Plutonium Impounded in Weichs," JPRS, p. 6-8.

[68] Ibid.

Additional Brief Examples:

-From 1991 to 1992 an employee of the Podoslk Research Institute near Moscow systematically stole 45-percent enriched uranium 235, by using small deviations on a scale. He compiled 1.5kg on his balcony.[70]

-In 1992, three men were arrested in Ishevsk, who wanted to sell uranium rods weighing 140kg altogether. After their arrest the nuclear fuels site that they worked at in Glasov (Udermurtia), was inventoried, the results indicated that 300 plus kg of uranium was missing.[71]

-On October 29, 1993 in block III of Chernobyl, it was discovered that 123 grams of fuel were missing.[72]

The list of incidences is too great to cover in its entirety here, please refer to appendix A, for further examples and documentation.

The materials seized and thus available on the international market include the following; weapons grade plutonium, highly enriched uranium, cesium-173, cobalt-60, stronium-90, and even a new substance called "Red Mercury, a yield enhancing material." Lastly, complete and functioning warheads are possibly being offered for sale.[73]

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[69] Even more startling are the claims of army Special Forces Sgt. 1st class (Ret.) Keith Idema, made in an interview with Jim Morris. Mr. Idema was working as a security advisor in Lithuania in the early 1990's, and through his contacts in the Lithuanian police learned that they had arrested former Soviet GRU agents for attempting to sell SADM's (Special Atomic Demolition Munitions, i.e., backpack nukes). The bad news was that this had been the third shipment of four, Mr. Idema's sources indicated that four had probably gone to Iraq, the others to parts unknown.

[70] Peter Scherer, "Illegal Dealings in Nuclear Material Soaring," from *DIE WELT*, in Proliferation Issues, Germany, JPRS-TND-94-006-L, 20 April 1994, p. 2.

[71] Ibid.

[72] David Hearst, "Ukraine Facing Damning Report on Nuclear Safety," from *The Guardian*, in Daily Report Russia, FBIS-SOV-94-088-A, 21 April 1994, p. 4.

[73] Darrin Goodsir, "Customs to Maintain Trade in Nuclear, Strategic Commodities," from *South China Morning Post*, in Proliferation Issues East Asia, JPRS-TND-94-016, 8 August 1994 p. 2.

It is not that difficult to move these materials. Artillery pieces (shells) are small enough to be transported by one individual. Legitimate sellers have been arrested in Germany, Turkey, Ukraine, the Baltic states, Hong Kong, Macao, Poland, and Spain.[74] The Hesse Office of Criminal Investigations (LKA) has reported a marked increase in illegal trafficking. Three incidents of fissile material smuggling were reported in 1991, nine in 1992, and thirty in 1993. From January 1992 until early 1995, close to 300 incidents of nuclear trafficking were reported from all over Germany to the Federal Office of Criminal Investigations. According to German sources, the smuggling seems to be dominated by Russians, Chechins, Poles, and Czechs.[75] The "hot" material is frequently smuggled into Germany by way of the Baltic States, Poland, and southeastern European countries. There are even reports of material arriving from Siberia aboard military transport aircraft.[76] It appears that the network, market, and availability of nuclear are large. The enforcement agencies in Russia and the other inheritor states do not appear to be capable of containing this serious nuclear threat.

Conclusion

The evidence is compelling. There are, in fact, highly organized, extensive in scope and power, criminal elements actively operating inside Russia. They are involved in all arenas of commerce and government. They are taking any means and course necessary to increase their income and one would be terribly naive to believe that they would avoid the high profit potential of selling nuclear materials on the open market. There is also ample evidence that private individuals are attempting to do the same, although a bit more ineptly. These materials are there for the taking, access is not that limited, and as has been discussed, once in possession, transportation out of the country is simple.

The assumption of massive expense that was at one time associated with the acquisition of nuclear materials is quite possibly no longer present. In all documented cases, individual material right up to weapons have been reasonably priced, from a few hundred dollars to a few million. Opposing arguments ignore this significant evidence and thus deny an extremely dangerous new proliferation threat.

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[74] Ibid.

[75] Scherer, "Illegal Dealing in Nuclear Material Soaring," JPRS, p. 2.

[76] Ibid.

With no political agenda, except that of profit, how does one identify future sources of nuclear materials. How does one stop nations from seeking weapons when it may be easier to acquire weapons than ever before? Even when the world had earmarked Iraq and North Korea as states that might seek nuclear weapons in the future, it was still surprised by the extent and size of their nuclear programs. Nations that desire nuclear weapons may now have access to a ready source of fissile materials provided by organized criminals. This could pose a balance of power shift on a monumental scale. The success of one group, either a nation-state or sub-state actor, could result in a cataclysmic event.

# IV

This chapter builds on the previous chapter's discussion of the criminal element by explaining the ease of which nuclear materials could be moved internationally. Specifically, the open borders of the Russian Federation tie in directly to the means used by organized crime to transport and smuggle their goods between Russia and the rest of the world. The porous borders also present a major problem for the current nonproliferation regim, because programs such as export controls often assume effective management of the border regions to ensure proper policy implementation. This chapter will demonstrate how porous borders, particularly in Central Asia, are opening up Russia's highly sophisticated nuclear and space technologies to the black markets of Europe and the rest of the world.

## A. BORDERS AND SMUGGLING

The borders of the Russian Federation are vast and difficult to guard and monitor. The transfer of materials and goods range from agricultural products, to strategic minerals and military hardware, to technology and knowledge. Realistically, some of this trading is illegal and occurs virtually unchecked by government authority. Of concern to this thesis is the smuggling of nuclear materials and related technologies. To better understand the comprehensive problems associated with Russia's porous borders, we can examine specific areas where smuggling is known to take place and is becoming a great concern to the international community.

Most of the attention and investigation into nuclear smuggling is focusing on the Baltic regions and the countries of Eastern Europe. The Baltic countries, specifically Estonia, are widely accepted as being the central place for thriving legal and illegal trading practices. Located near many of the industrial regions of Russia and connected by vast rail and road systems, every conceivable "commodity" passes through the ports and borders of the Baltic states. Trade between Russia and Europe pass through this area and are increasing at astounding rates. The ports and merchant sections are controlled almost entirely by the organized crime elements discussed in Chapter Two. Many of these group members are former Russian soldiers who remained here after leaving Soviet-Russian military service.[77] Nuclear materials recovered in Germany last year are believed to have passed through the Baltic region and originated in Russian nuclear facilities. Countries such as the Czech Republic, Romania, and even Turkey have also made arrests in conjunction with significant quality nuclear materials.

If one were to study a world map, the correlation between where these "nuclear" arrests are being made and the major industrial-trading centers of Europe becomes visible. Germany is renowned for its industrial and technical infrastructure. Prague is flooded by foreigners and international entrepreneurs. Bucharest and Constanta offer cheap and extensive transportation complexes built up under the Soviet era.[78] Istanbul is, and has been for centuries, the crossroads for trade between Asia, Europe, and Russia. Trading routes of the past remain today. Although the nature of the traffic may have shifted from silk and spices to narcotics and immigration, the basic premise still exists: commodities and technologies transferred happen because there are profits to be made from supply and demand. For anyone, especially the nonproliferation regime, to assume today that nuclear materials and related technologies are magically excluded from such economic forces is both naive and dangerous.

## B. THE STANS

The region that requires greater attention, and is often ignored, is the southern border of Russia and the countries of Central Asia. The area contains enormous resources related to nuclear weapons and other WMD. Bathing this area also are the chaotic waters of economic and political degradation. With industrial production down over fifty percent from the days of Soviet domination, the World Bank estimates unemployment rates in

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[77] William E. Schmidt, "Latvia's Worry: What to do With All Its Russians," New York Times, 1 March 1994, p. A3.

[78] Having traveled to Romania, the port of Constanta is very modern and immense. It is the fourth largest port in the World and is a virtual ghost-town looking for any type of shipping business.

Central Asia run at thirty-five percent, while real wages have fallen up to sixty percent since 1991.[79]

The concern most often sited when referring to Central Asia is the increasing drug production and trafficking taking place. Fueled by poor economic conditions, the production and trafficking (and use) of opium and heroin amount to thousands of tons per year, providing a valuable "cash crop" for local economies. The real extent of these operations is not known, but regional and international officials present a dismal picture that is only getting worse. Although some countries have stiff penalties for apprehended drug dealers, like Uzbekistan's death penalty, local smugglers and police officials admit that "only the fools and the small fry get caught."[80] If the death penalty does not deter drug smugglers, then how will export controls deter nuclear smugglers.

The problem extends over a region that is roughly twice the size of Europe, where border controls are among the worst in the world. "Most cars pass between Uzbekistan, Tajikistan, Kyrgyzstan and, in the north, Kazakhstan, without incident or inspection. Some frontiers simply have stop signs."[81] Despite attempts at replacing or retraining border guards, the economic reality of the situation (as discussed in Chapter II) often overpowers the idea of stopping the drug trade. First, considering the value of narcotics to local economies, it is hard to convince local authorities to cut off this source of income to their people. Second, bribes to border authorities, who earn approximately $45 per month in pay, can reach a minimum of $200 per vehicle. The only vehicles inspected are those who cannot afford the bribe.[82] As seen elsewhere in the NIS, the incentive for personal profit outweighs that of moral duty. Without a strong concept of moral duty, there can be no legitimate enforcement of order.

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[79] Michael Specter, "Opium Finds Its Silk Road In Chaos of Central Asia," New York Times, 2 May 1995, p. A4.

[80] Ibid.

[81] Ibid.

[82] Ibid.

The Russian government, already strapped for cash, is trying to help the situation as best it can. In Turkmenistan, Russia has increased its presence along the Turkmen-Iran-Afghanistan frontier by placing more officers in charge of border units. The Soviet collapse left this border, all 2,472 km, with thirteen trained Turkmen officers to watch over it. Russian presence here is intended to help train more Turkmen officers and to eventually withdraw. Even with Russia's assistance, the border units remain undermanned.[83] Increasing CTR funds for border guard salaries may be a short-term solution, but smugglers will still be able to pay the bribes that allow their wares to pass.

Trade between Iran and Turkmenistan is steadily increasing and seven border crossing have been established. In fact, Iran is building its trade ties with almost of countries in this region as well as the Caucasus. With border guards underpaid, or sometimes not paid, their susceptibility to bribes is a critical factor in the ever increasing area of smuggling. Drugs and arms flow almost freely through border crossings as well as the numerous non-guarded mountain passes and the Caspian Sea.[84]

All across Central Asia narcotics, and weapons, are transported using almost every conceivable means of transportation. Official Russian trucks are driven by Tajik drivers so that plausible denial can be used if something goes wrong. Russian border officials will use their helicopters to deliver opium for those who have enough cash. Even small, private planes and commercial airlines are used for trafficking.[85]

The information presented here lays the groundwork for a potentially greater problem. Consider this region and overlap: (1) the opium production and trade areas; and (2) the nuclear production and storage facilities. This has been done on the maps in Appendix B. What is presented now is the recipe for potential disaster, if it has not already happened. In Eastern Kazakhstan, opium production fields lay close to and south of: (1) the SS-18 ICBM base at Zhangiz-Tobe; (2) the huge LEU production plant,

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[83] "Border Troops Chief Views Russia-Turkmensitan Military," from *NEZAVISIMAYA GAZETA*, in JPRS Report Central Eurasia, JPRS-UMA-95-003, 13 January 1995, p. 1-3.

[84] Ibid.

[85] Specter, "Opium Finds Its Silk Road," p. A4.

Ulbinsky Metallurgy, at Ust-Kamenogorsk; (3) the Baikal Nuclear Test Facility at Semipalatinsk; and (4) Kurchatov, the site of possible nuclear weapons assembly plant. Further north, in Russia, there are the nuclear facilities in Altay, Novosibirsk, Tomsk, and Krasnoyarsk. In central Kazakhstan, opium production fields are positioned east of the Baikonur space and missile test complex. To the north of this region lie the SS-18 ICBM base at Derzhavinsk and the uranium mining facility at Stepnogorsk. North of this region, in Russia, there is the vast nuclear facilities in Orenburg, Chelyabinsk, and Sverslovsk. Finally, in western Kazakhstan, there exists a fast breeder reactor and uranium mining site near Aktau on the Caspian Sea.

## C. SPACE PROGRAM

The Russian space program is another potential source of concern for WMD technology proliferation. The home of the program is base at Baikonur Space Center, Kazakhstan. Once a crown symbol of Soviet (and Russian) power, the space agency is dwindling away. Due to lack of funding, many of national space programs are being put on hold or terminated. Work of thirty-four of seventy projects has halted, and funding for 1994 programs amounted to less than ten percent of 1989 levels. The 1995 budget is under $300 million, compared to NASA's $14 billion. As a result, officials plan to send 25,000 of the 40,000 space employees back to Russia in the next year. Many of the engineers have already fled and many others would leave if given a viable opportunity. Leninsk, the town that supports the Baikonur facility, has seen its population drop by one half, to 50,000, over the past three years. The threat of proliferation coming from this area is that of heavy-lift rocket technology that could be applied to the delivery of WMD. As stated by Russian officials, the population of Leninsk "would drop more if people here had any place else to go."[86]

As demonstrated by the discussions on Russia's "Brain Drain" in Chapter III, as well as porous borders which help promote a vigorous smuggling empire throughout Central Asia, one can see the danger of technology and scientific transfer into regions desiring advanced missile and ICBM capabilities. From neighboring countries like Pakistan, India, Iran, and Iraq, to far away countries (tied together through diplomatic and underworld channels) in Latin America and East Asia, the demand for advanced lift technologies are real and should not be ignored.

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[86] Michael Specter, "Bleak Times Where Sputniks Once Soared," New York Times, 21 March 1995, p. B11.

The combination of poor economic conditions, an expanding drug and organized criminal element, and the close proximity to some of the most advanced nuclear and space technology, personnel and material in the world, make Central Asia a proliferation warehouse. The centers for the drug trade in Osh, Tashkent, and Samarkand are all within a day's drive to most of the Central Asia region and across easily penetrable borders.[87]

The implicit scenario drawn from the this milieu is a chilling one. In the immediate region, we have numerous countries and factions desiring nuclear and ballistic missile technologies. Take your pick from the usual suspects of Iran, Iraq, Pakistan, India, and even China. However, if you look at the extent of the drug trade and the connections to cartels in Europe, Latin America,[88] Asia, and yes, the United States (the world's leading consumer of heroin)[89], the potential for undetected nuclear proliferation is very real. The money exists, the supply and demand exist, and the means exist. This is something not addressed by current nonproliferation programs.

Finally, CTR funding to Kazakhstan has been sparse. Money for the MC&A, export controls, and other ways to get the least bit grasp on the nuclear industry of this troubled region remain mostly on paper. Despite Project Sapphire the greater extent of the nuclear issue remains unattended. It is an issue growing out of control and may very well be beyond traditional solutions offered by policy makers and the nonproliferation regime advocates.

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[87] Ibid.

[88] "Paper Analyzes Drug Smuggling Routes," from *DAGENS NYHETER*, in JPRS Report International Affairs, JPRS-TDD-95-003-L, 26 November 1994, p. 1-3.

[89] Specter, "Opium Finds Its Silk Road," p. A4.

# V

This thesis is not about the nonproliferation regime and it will not discuss the regimes numerous programs in detail. This chapter furnishes a brief description of what the nonproliferation regime represents and what it has been intended to achieve. The Bank of Credit and Commerce International case study, included in the chapter provide an excellent example of the ways a non-state entity may be able to circumvent many of the nonproliferation regime detection and deterrent policies.

## A. THE NONPROLIFERATION REGIME

The nonproliferation regime is not one program or policy, it is composed of numerous treaties, accords, and enforcement agencies. The nonproliferation regime is an entity or institution similar to the British Constitution, no one document or accord provides for all of the regime's functioning parts. With the British Constitution it is the Magna Carta and the Aristocracy class, that the rest of the Constitutional frame-work evolved from and now revolves around.[90] The nonproliferation regime also receives its focus from two major fixtures, The Treaty on the Non-Proliferation of Nuclear Weapons (NPT), and the International Atomic Energy Agency (IAEA). The NPT is the soul of the nonproliferation regime, while the IAEA acts as the regime's primary regulatory arm. The NPT, which was signed in 1970, and IAEA represent the apexes of the world communities search for a solution to the threat posed by the proliferation of nuclear weapons.

The NPT and IAEA are not the only significant programs of the nonproliferation regime. For instance, beginning in 1974, a series of laws required that unclassified nuclear information be withheld from sensitive nations when, in the judgment of experts, it could help those nations produce nuclear weapons. The Atomic Energy act places controls over data that would assist in weapons production or acquisition. The Nuclear Non-Proliferation act does the same. The export Administration Act specifically calls for safeguards against the transfer of even unclassified technologies of any type, that might significantly contribute to the conventional or nuclear posture of other nations.[91]

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[90] Dudley Julius Medley, A Students Manuel of English Constitutional History (London, Simpkin, Marshall, Hamilton, and Kent & CO., 1907), 33-40.

The successful control of *dual-use* technologies has also been a major member of the nonproliferation regime. Dual-use technologies would be anything that possesses a benign function, but also could be legitimately used to facilitate nuclear weapons programs. The actual concept is simple. The Pershing missile contains 250,000 separate parts. One does not need to control all 250,000 parts, just many of the primary ones necessary for the weapon to function. On a Pershing missile this would include the ablative nose cone, electronic stage separators, pumps, and navigation hardware. This is not an inclusive list but presents the general idea behind this concept.[92]

The various programs and accords the make up the nonproliferation regime originated as dialogue between nations in the international arena. These discussions took place in the United Nations (UN), regional forums, and between bi-lateral super-powers. The focus in the international arena is upon nation-state actors. Countries negotiate and sign treaties as a nation and then act in concert to fulfill their respective treaty obligations, at least this is the theory. When sub-state actors become involved in the international environment, again the world community looks to state actors to address the situation. In the example of terrorism, nations know that they can expect reprisals, loss of financial and military aid if they allow or support terrorist groups internationally. Countries such as Jordan, Syria, and recently Libya have forced the terrorist groups that once operated within their borders to stop operations or have forced these groups to flee to safer venues.

A major assumption made by this thesis is that Russia and the other inheritor states due to the current problems will have a very difficult time effectively managing and enforcing many, if not all aspects of the nonproliferation regime. Russia today is having difficulty keeping the water running and the electricity on in Moscow, let alone being able to adequately monitoring its borders. The nonproliferation regime has many great programs for denying nuclear materials and making it considerably difficult for nations to attain nuclear weapons. What needs to be addressed is how to bring a nation back up to a level where it can again adequately follow these programs. As Kathleen Bailey notes, "any nation with enough money and dedication can build a nuclear arsenal. And if a nation studies the lessons of how other countries (e.g., Israel, India, South Africa, Iraq, and North Korea) have gone about hiding their programs. . . it may even be possible to build a secret arsenal."[93] We concur with this assessment, and when added to the current situation in Russia and the other inheritor states, it may now be even easier to cheat. In the past it was believed that non-state actors could not gain control of any type of nuclear weapons materials because the magnitude of the system prevented it. We have shown this to be an incorrect assumption after the collapse of the Soviet Union.

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[91] Windrem and Burrows, Critical Mass, 188-189.

[92] Ibid., 486-487.

## B. ILLICIT NUCLEAR PROLIFERATION BY NON-STATE ACTORS UNDER THE NPT AND IAEA SAFEGUARD REGIME

### 1. The Bank of Credit and Commerce International

The Bank of Credit and Commerce International (BCCI), was founded in 1972 by a Pakistani businessman named Agha Hasan Abedi. It began supposedly to be Islam's entry into the world of international banking. She was to rival Bank of America, Chase Manhattan, Lloyd's of London, Barclays, and the German Deutsche Bundesbank.[94] What they turned out to be was a nefarious international institution that left death, destruction, and financial ruin in their wake.

BCCI acted as a secret international cash transmission network for what may have been thousands of illegal and gray transactions involving drug trafficking, conventional arms and technologies transfers, and money laundering. Most significantly they provided the transfer of funds and acted as brokers for the movement of nuclear materials to Iraq, Argentina, Libya, and Pakistan.[95]

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[93] Kathleen Bailey, "Problems Facing Nuclear Disarmament," Paper presented at "The Nuclear Nonproliferation Treaty: Review and Extension," Lawrence Livermore Laboratory, 19-20 July 1994.

[94] Burrows and Windrem, Critical Mass, 142-143.

[95] Hearings Before the Subcommittee on Terrorism, Narcotics, and International

BCCI through the 1970's, 1980's, and early 1990's operated illegally in many forums with impunity from treaties and laws such as the NPT, IAEA safeguards, and National and International Banking Regulations. BCCI was not a small shadow organization, it was high visibility and high finance. They possessed between 20 and 30 billion dollars in assets, employed more than 12,000 people from 83 different countries, with over 400 branch offices in at least 70 nations including America, Switzerland, Columbia, Pakistan, England, the Cayman Islands, Iran, Nambia Nigeria, South Africa, South Korea, Hong Kong and a host of others. Bank of America had been an initial investor; they acquired Independence Bank in Encino, California, Central Savings in Miami, Florida, and National Bank of Georgia in Atlanta, Georgia, all illegally.[96] They held accounts for Manuel Noriega, the Columbian Drug Cartels, Daniel Ortega, Abu Nidal, Ferdinand Marcos, and Saddam Hussein.[97] The U.S. Central Intelligence Agency (CIA) and British Intelligence had accounts with BCCI, as did Adnan Khashoggi, the millionaire Arab arms dealer.[98] The bank maintained a 1,500 member intelligence and enforcement branch head quartered in Karachi.[99] It would pay bribes, head off potentially dangerous investigations, transfer weapons, and if necessary kill people.[100] They also channeled money for the National Security Council (NSC) to the Nicaraguan rebels.[101]

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Operations of the Committee on Foriegn Relations, The BCCI Affair, (Washington, U.S. Government Printing Office, 1992) Sen. John F. Kerry, Chairman. This is a five volume record of almost 3,000 pages of testimony beginning on 1 August 1991 and concluding after intermittent breaks on 14 May 1992. vol. 1, 2-67.

[96] Mark Potts, Nicholas Kochan, and Robert Whittington, Dirty Money, BCCI: The Inside Story of the World's Dirtiest Bank (Washington D.C., National Press Book, 1992), 9-25.

[97] James Ring Adams, and Douglas Frantz, A Full Service Bank, How BCCI Stole Billions Around the World (New York, Pocket Books, 1992), 3-9.

[98] Kerry, The BCCI Affair, vol. 1, 27-31, vol. 2, 421-474.

[99] Burrows and Windrem, Critical Mass, 143-145.

[100] Kerry, The BCCI Affair, vol. 253-254. See Appendix G, for further documents.

[101] Adams and Franz, A Full Service Bank, 189-190.

All this was done a few steps ahead of the law and auditors like Price Waterhouse, which gave the bank multiple clean bills of health. In all fairness though, the bank had as friends and supporters the likes of former president Jimmy Carter, Secretary-general of the UN Javier Perez de Cuellar, former ambassador to the UN Andrew Young, Carter loyalist Burt Lance, and had donated funds to the Bush election campaign, to name a few.[102] None of these gentlemen had anything to do with the banks illegal activities. They were used as cover, credibility, and legitimacy.

Keeping close tabs on a multi-national corporation like BCCI is an extremely difficult task in part because in the United States alone, over the two financial wire clearing systems, the CHIPS and the Fed Wire . . . at least 1.3 TRILLION dollars a day moves through the system! Nobody knows where this money comes from and a lot of the time no one knows where it is going.[103] Internationally the system is just too difficult to track. With 10's of thousands of commercial shipping vessels, each with hundreds of cargo containers on board, moving daily, no customs agency could be expected to catch all or most of the drugs, weapons, or nuclear contraband being moved. This is exactly how BCCI was able to operate, and this is how smugglers continue to operate today.

BCCI moved large weapons and huge amounts of narcotics illegally all over the world without getting caught, and assisted terrorists to do the same (see Appendix C).[104] But what is most significant here is that BCCI assisted several nations in the quest for nuclear weapons and are the ones most responsible for Pakistani's successful nuclear program. Senator Kerry's investigation also indicates that the bank assisted terrorist groups in acquiring the same nuclear materials as the nation-states involved.[105] In 1983,

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[102] Potts, Kochan, and Whittington, Dirty Money, 14-15.

[103] Kerry, The BCCI Affair, vol. 3, 51-54.

[104] Ibid., vol. 2, 6-117. Appendix C includes evidence given to the Senate Subcommittee, showing several illicit arms transfers including Centurion Tanks, and F-86 Saber Jets.

[105] Ibid., vol. 1, 248-250.

Dr. A.Q. Khan stole plans for a uranium enrichment factory from the Netherlands, and this plant was later built in Pakistan. BCCI paid for his legal defense, they also got him safely out of the country prior to arrest. BCCI financed the attempted illegal purchase of high speed nuclear triggers for implosion devices. In 1987 they were caught attempting to purchase 50,000 pounds of maranging steel C-350. This is a very high strength steel used in centrifuges. Berillium, a yield enhancing substance was also unsuccessfully purchased illegally. These are a few of the only semi-successful and failed attempts, Senator Kerry's investigation though led to the conclusion that BCCI was a major contributor to Pakistan's successful nuclear weapons program.[106]

The BCCI scandal is a prime example of an organization with little or no political or moral agenda easily circumventing existing legal barriers to almost all international criminal activities, up to and including the spread of nuclear weapons technologies.

### Score Card of International Non-Proliferation's Successes

This example shows that these programs have difficulty addressing what can be done by a sub-state multi-national organization intent upon proliferating nuclear weapons technology. They are not even looked at by the proper controlling agencies. What was not discussed here were the other successful nuclear proliferation cases that took place while these treaties and aggreements were enforce. India, and its "peaceful" detonation, have now aimed these same "peaceful" weapons at Pakistan. Pakistan may now have weapons aimed at India. Israel, Iraq, South Africa, and North Korea have succesfully entered into the nuclear arena.

Briefly what the above case indicates is that many of the proliferation myths believed do not apply in today's world. These countries did not have the huge technological, science, and industrial super-structures that were believed to be necessary to produce nuclear weapons. Except for Iraq, they did not have the financial wherewithal and depth to support an expensive program. And they were not adverse to the moral and political pressure the world places upon proliferators. As a result the following also occurred.

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[106] Ibid., vol. 1, vol. 2, vol. 3, and vol. 5.

Burrows and Windrem, Critical Mass, 145-154. The Congressional sub-committees findings show that BCCI was from its inspection a major player in obtaining an Arab nuclear bomb. They bought and sold anything and everything, some of the evidence appears in appendix C. The BCCI web is so large that everything it was involved in may never be known, but the fact that it dealt with every major Arab nation that desired nuclear weapons technology, as well as with Argentina, Libya, and North Korea, one can only speculate at how greatly nuclear materials were disseminated in these regions.

North Korea, has been a poor, isolated, and technologically backward nation since the 1950's, yet they successfully went nuclear, and now can bring the collective world to the negotiation table. Then there are the new nuclear nations by default, Belarus, Ukraine, and Kazakhstan, who were created because of the collapse of the Soviet Union. They appear to be falling in line but what about all their weapons and materials. With no accurate measures or controls it can never be known for certain if they have spread weapons elsewhere.

The Japanese admitted to possessing the capability of being able to assemble defensive nuclear weapons on very short notice. It is unknown if this is hours, days, or weeks. Regardless then of their current NPT adherence, they must be considered as "virtual proliferators" and when national interest dictates they will become actual proliferators. It must then be believed other technologically advanced nations possess a similar capability. For instance, Germany currently possesses all the required technologies, tools, and materials to build weapons. Currently, today both Argentina and Brazil have at least publicly backed away from their pursuit of nuclear weapons. But that was not due to worlds nonproliferation regime, it was due to the United States stepping into their recurring crises situations in South America and dictating that we would not allow them to go nuclear against each other, or else they might face a real nuclear power.

This should not be construed as a diatribe against international non-proliferation programs, and the regime itself but rather examples of their periodic shortfalls. No program could be perfect in an environment where each nation has their own perception of threats real, or otherwise. A nation will do what is in its best interest to survive internationally. This has never been more true recently with the end of the Cold War and the draw down of the U.S. war machine. Regionally now, nations will be looking inward for security because the USSR and United States will not rush in and jockey for power or try to support every regime that needs it, for example the Chomoro Islands, Liberia, Rwanda, Somalia, or Bosnia-Herzegovina. As a result regional conflicts will be solved much more locally. This could increase the international demand for nuclear weapons and even if not, the following still remains true, that Iran, Iraq, North Korea, Taiwan, India, Pakistan, Libya, Angola, Israel, Saudi Arabia, the UAE, Ukraine, and others will choose to keep the weapons they already possess, build more, or attempt to acquire a nuclear capability. With the collapse of the Soviet Union these capabilities and technologies are currently much easier to obtain, as explained in the followind two chapters.

Since WMD were used in the Tokyo subway attacks and terrorists have struck here in the United States multiple times, it would be wrong to assume that these types of organizations would be adverse to the use, sale, and movement of nuclear devices and materials in the future. Thus they must also be viewed as both a legitimate threat and market place for these materials as well.

# VI

This section of the thesis addresses Russian and American assessments of the new proliferation threat posed by the Soviet collapse. It displays the inadequacy of Russia's internal nuclear control measures and outline why Russian nuclear experts believe that international nonproliferation programs do not effectively help restrain what they see as the new proliferation threat.

## A. REGULATION OF THE NUCLEAR INDUSTRY

The Russian Federation has the agencies in place for the control and safety of their nuclear industry. One key element that is missing is a clear national policy that will delineate the legislative and administrative responsibilities between the agencies. The three main safety bodies are the Ministry of Atomic Energy (Minatom), the Sanitary and Epidemiological Authority (Goskomsanepidnadzor), and the Federal Nuclear and Radiation Safety Authority (Gosatomnadzor or GAN). Presidential Instructions 137 (1991), 283(1992), and 636(1993), establish GAN as the overriding authority for nuclear safety of all civilian and military nuclear industries. The decisions of GAN are binding on "all state management agencies, companies, organizations and military divisions located on Russian Federation territory, irrespective of such bodies' affiliations or form of ownership, and also upon officials and citizens."[107]

The present system by which GAN carries out its duties is based on the old Soviet system of safety regulations and standards. One of GANs primary goals is the transformation of this system into a modern, legally based structure that will set nuclear safety standards on a solid national basis. GAN currently oversees greater than thirteen thousand facilities that are considered radiological dangerous. These facilities belong to

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[107] A. T. Gutsalov, "Regulating Nuclear and Radiation Safety in Russia: Where do we Stand and What are the Issues?" trans. Catherine Boyle (Paper presented at the Symposium on Nuclear Safety in the NIS, Monterey Inst. of International Studies, Monterey, 12-13 April 1994), 1-6.

Minatom, the Ministries of Defense and Transportation, the State Committee on the Defense Industry, and all businesses of radioactive substances such as the Kurchatov Institute.[108]

The sticking points to legitimately establishing GAN as the safety authority in Russian have been the lack of legislative and political support, and financial backing. In a society where law is something of an anomaly and political infighting and stubbornness is an established art form, GAN has been plagued by its inability to create a credible and authoritative standing. Lack of funds has cut down on its ability to staff inspection teams and administrative support structures to carry out proper nuclear safety enforcement.

The major opponents that GAN must battle with are the Ministry of Defense, Minatom, and the Federal Counterintelligence Service. The three agencies are well-entrenched bureaucracies that are defending the old Soviet system quite faithfully. One could apply organizational theory here and say that these agencies are fighting for their existence and way of livelihood. Their refusal to admit that major problems exist within the nuclear safety field may cause serious short and long term damage to security of Russia and the world.

It is estimated that 170 tons of military and civilian plutonium and 1000 tons of highly enriched uranium (HEU) exist in Russia. Officials at Minatom publicly deny that there are any security problems surrounding this material or any other nuclear materials.[109] They describe their system as being as tight as any bank vault and the world need not concern itself over the theft of plutonium and uranium. However, nuclear specialists both inside and outside Russia see this nuclear bank as more of a nuclear bazaar.[110]

Minatom is a huge bureaucracy with approximately one million employees.[111] Its accounting and control procedures for nuclear stockpiles are fragmented and in need of major modernization. Inspections and detailed measurements of existing stocks are rarely conducted and each nuclear institution is virtually responsible for their own stock accounts. Yevgeny Velikav, director of the Kurchatov Institute in Moscow, states that Minatom's security system can be portrayed as national, but in reality it does not exist. Plutonium and HEU storage areas are scattered widely between military bases and less protected research facilities and power plants. Yuri Vishevsky, director of GAN, feels that order and discipline must be regained in stockpile accountability and adds, "Unfortunately today, there are too many possessors of nuclear material. We need to find out who possesses nuclear materials and get them to carry out an inventory."[112]

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[108] Ibid., p. 6-7.

[109] Gordon, "Russian Controls on Bomb Material Leaky," New York Times, p. A1.

[110] Nelan, "Formula For Terror," p. 49.

[111] Matthew L. Wald, Michael R. Gordon, "Russia Treasures Plutonium, But U.S. Wants to Destroy It," New York Times, 19 August 1994, p. A6.

Seizures of weapons-grade plutonium and HEU in Germany this summer have placed international attention on Russia's nuclear security. A. Dyakov, head of the Moscow Center for Arms Control, Energy, and Environment stated that no one really knows how much plutonium and uranium are produced in civilian reactors. He defends his country's position, however, by saying that this is not unique to Russia. "In the entire world there are no exact figures, just estimates."[113] Whatever validity this statement holds is a matter of conjecture, but it is arguments such as these that come out of every corner of the status quo nuclear community in Russia.

Aleksandr Mikhaylov of the Russian Federal Counterintelligence Service admitted in June 1994 that some radioactive material may have been smuggled out in the past, but added that this no longer occurs. As for plutonium and uranium, none has ever been smuggled out. The Federal Bureau of Investigations and other Western intelligence agencies have failed to produce evidence of leakage of nuclear weapons components. The Service also released that in 1993 all attempts by foreign secret service agencies (including North Korea's) to recruit scientists or extract nuclear information and technology had been thwarted. He concluded by saying media claims that Russia had lost control of its nuclear industry "are aimed at preparing public opinion in the West for the idea of establishing political control over Russia's nuclear weapons."[114] If this sounds like Cold War rhetoric, keep in mind that the Federal Counterintelligence Service used to be the domestic side of the KGB.

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[112] Gordon, "Russian Controls on Bomb Material Leaky," p. A1.

[113] "Russian Physicist Interviewed on Plutonium Theft," from *DIE WOCHE*, in Daily Report Germany, FBIS-WEU-94-118, 16 June 1994, p.1.

G. Kaurov of Minatom and Interior Minister V. Yerin share a similar view. Their feelings are that journalists are creating all the fantasies about uranium and plutonium smuggling. No one, they say, can prove that any of these materials come from Russia, and there have been no reported thefts of these material inside Russia.[115] The blind nature of these statements compared to the facts surrounding numerous arrests, both inside and outside Russian, plus testimonies given by scientists inside the nuclear industry, is self evident. Yerin's first deputy, M. Yegorev, contradicted his boss the same day by saying that his organization has investigated over seventy criminal offenses involving radioactive materials in the past one and half years. [116]

Similar routines were displayed again in August when weapons-grade plutonium and HEU showed up in Germany. Despite preliminary analysis that practically identifies one of three sites in Russia, Minatom and Counterintelligence kept up their statements of denial. Kaurov called attacks on Russia's nuclear safety as "a campaign of provocation."[117] Following the Munich seizure, President Yeltsin established a commission to monitor the nonproliferation of radioactive elements and nuclear weapons, and placed Stephin Stepashin as overseer of the project. As good as this sounds, Stepashin is the current head of the Federal Counterintelligence Service and is an outspoken opponent of GAN and western media. After his meeting with Germany's Bernard Schmidbauer in late August, Stepashin held a news conference. He announced that the two countries would cooperate in the future to combat nuclear smuggling. He also used the opportunity to skillfully spread the responsibility of preventing the proliferation of all radioactive materials onto the international community -- all countries should "create international guarantees for...non-proliferation."[118]

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[114] "Counterintelligence Chief Denies Leak of Nuclear Components," from *ITAR-TASS*, in Daily Report Russia International Affairs, FBIS-SOV-94-120, 22 June 1994, p. 2.

[115] "Plutonium Trafficking," JPRS, p. 2.

[116] Ibid.

[117] "IAEA 'Alarmed' Over Nuclear Smuggling Incidents," from *AFP*, in JPRS Report International, JPRS-TND-94-016, 15 August 1994, p. 2.

Stuck in the middle of all this turmoil is GAN. The agency which, by presidential instructions, is to have top priority in regulating Russia's nuclear institutions is caught in a battle to establish its credibility and legitimacy. Defense Minister Grachev and Minatom's Mikhailov have been fighting at all levels to limit the regulatory agency's power to oversee their facilities. GAN officials, though empowered on paper, say they lack the legislative backing in Parliament. Funding for equipment and personnel are scarce. The path toward a truly national regulatory system is off to a rough start.[119]

Further complicating the establishment of GAN is Russia's historical void of any legal foundation. The USSR was not a state that was founded and maintained based a system of laws. The atomic industry is not exempt from this legal vacuum. Many of the problems that nuclear regulatory agencies face stem from the lack of any grasp of atomic law. The USSR had no atomic law to regulate the industry, using instead an enormous administrative structure (those of Minatom and the Ministry of Defense) which issued orders and instructions from a centralized government. This issue is one of the major road blocks slowing down the development of a national regulatory system for nuclear security.[120]

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[118] "Counterintelligence Chief Heads Nuclear Monitoring Body," from *Moscow Ostankino Television*, in JPRS Report Central Eurasia, JPRS-TAC-94-011-L, 23 August 1994, p. 2.

[119] Gordon, "Russian Control on Bomb Material Are Leaky," p. A8.

[120] Misharin, "Disintegration," 73-76.

## B. PHYSICAL SECURITY OF RUSSIAN NUCLEAR FACILITIES

### 1. Security: Background and Details

The collapse of the Soviet Union left the responsibility and physical control of all the nuclear weapons and most of the nuclear facilities in the hands of Russia and the other inheritor states. Political relations between Russia and the other nuclear inheritor states have strained the old Soviet system of central command over the nuclear weapons. Due to insufficient workmanship within the military industrial complex (MIC), logistical support for the transportation and dismantling of nuclear weapons has caused safety concerns. The military is also undergoing drastic restructuring while trying to form the new Russian army. The command structure is not clear and there are gaps in troop units, including the strategic nuclear forces.[121]

The atomic industry as a whole has lost much of its prestige. Government orders for both civilian and military nuclear materials are decreasing, with some plants operating at 40 percent of their 1992 capacities.[122] Decentralization has also removed the tight state management system and pushed responsibility to local administrations. The independence perceived by the atomic industry has allowed local trade unions and free market entrepreneurs to take hold. The lack of training and skills to engage in a market system have caused economic losses, a reduction in maintenance practices, and economic hardship the surrounding areas.[123]

The majority of Russia's most secret nuclear industrial complexes were once closed cities. (For example: Chelyabinsk, Tomsk, and Krasnoyarsk were engaged in tritium and plutonium production, weapons assembly, enrichment, and reprocessing.)[124] Under a free society, these cities are now open to everyone. Physical security under the old system was simply a well-guarded wall to prevent undesired penetration. What limited electronic surveillance equipment that existed in the old system has not been upgraded due lack of funding.[125] Furthermore, the emphasis on security under the Soviet system was based on the *person*, not a physical system of alarms, locks, seals, inventories and accounting.[126]

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[121] Vladislav N. Misharin, "Disintegration of the USSR and Nuclear Non-Proliferation" (Paper presented at the Monterey Institute of Intentional Studies, Monterey, August 1994), 82-84.

[122] William C. Potter, Eve E. Cohen, Edward V. Kayukov, Nuclear Profiles of the Soviet Successor States, monograph no. 1 (Monterey, Monterey Institute of International Studies, 1993), 45.

[123] Misharin, "Disintegration," 84.

The Russian Federation is currently operating twenty-nine nuclear power plants (NPP) and another eighteen are under various stages of construction. According to the U.S. Nuclear Regulatory Commission (NRC), 17 of the 29 NPP are considered to have major safety problems inherent in their design and or operation. Eleven of these NPP are Chernobyl-style RBMKs.[127]

There are twenty nuclear research reactors (NRR) in Russia. In Moscow, there are forty-two nuclear research installations, nine of which are NRR.[128] One nuclear research facility, the Kurchatov Institute, contains twenty-seven nuclear sites and located in the middle of Moscow. Three other major nuclear research centers in Moscow are: the Institute of Theoretical and Experimental Physics; (2) the Moscow Engineering-Physics Institute; and (3) the Research and Design Institute of Power Generation Technology.[129]

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[124] Potter, Nuclear Profiles of the Soviet Successor States, 59-63.

[125] Misharin, "Disintegration," 86.

[126] William C. Potter, "Nuclear Insecurity in the Post-Soviet States," Nonproliferation Review 1, no. 3 (Spring-Summer 1994): 62.

[127] Ivan Selin, "Remarks for Symposium on Nuclear Safety in the Former Soviet Union" (Paper presented at the Symposium on Nuclear Safety in the NIS, Monterey Institute of International Studies, Monterey, 12-13 April 1994), 5. Safety problems include poor design (no containment), siting, construction, quality assurance, operation, maintenance, and regulation.

[128] Potter, Nuclear Profiles of the Soviet Successor States, 54-55. 6 of 9 are located at the Kurchatov Inst., with one each at the Moscow Engineering-Physics Institute (MEPI), the MIPI (expansion unknown), and Inst. of Physics & Power Eng.

[129] "Safety of Moscow Nuclear Sites Assessed," from *IZVESTIYA*, in JPRS Report Central Eurasia, JPRS-TEN-94-019, 13 July 1994, p. 1.

Recent inspections of the Moscow sites by the Federal Inspectorate for Nuclear and Radiation Safety claim that all storage facilities fall within prescribed levels. The study did note that nuclear waste is piling up due to cost associated with transporting and processing of spent fuel. Findings issued on Moscow's NRR, many of them built in the 1950's and 1960's, point out that the fragmentation of the nuclear industry is hampering parts support, modernization, and decommissioning. The lack of funding has hurt retention of young personnel and continued downward trends will force the closing of certain NRR. There also needs to be an updated system for the safe storage of radioactive waste and spent fuel [130] as well as a better plan for the hazards associated with decommissioned NRR. Finally, the Federal Inspectorate report said "the status of security at the reactors in operation must be "reevaluated" using contemporary approaches."[131] Despite the general positive tone of the report, this last finding is short and to the point: nuclear security needs immediate upgrading.

This "re-evaluation" may be urgently necessary if security at the Kurchatov Institute is indicative of Moscow's other nuclear sites. The institute is located in the middle of the city and employs twenty thousand people. The 5.2 km-long wall surrounding the institute is part brick (40 years old) and part concrete. The decaying brick section is secured with alarm systems from 1953, while only one-quarter of the entire wall has modern alarms. Although the institute produces highly enriched plutonium and uranium 235, personnel guarding the wall do not have equipment to measure radioactivity. Unused fuel rods for nuclear power plants are stored here under the protection of Department 7, which is headed by only one person. This violates IAEA regulations that call for two person controls for such sensitive materials.[132]

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[130] "State of Nuclear, Radiation Safety 'Unsatisfactory'," from *INTERFAX*, in JPRS Report Central Eurasia, JPRS-TND-994-002-L, 8 February 1994, p. 2. These problems are indicative of the larger issue at stake here: storage facilities will be exhausted in two to three years.

[131] "Safety of Moscow Nuclear Sites Assessed," JPRS Report Central Eurasia, p. 3.

[132] "German Media Exposes Plutonium Trafficking," from *DIE ZEIT*, in JPRS Report West Europe, JPRS-TND-94-006-L, 29 July 1994, p. 3.

The conditions at Kurchatov are not unique. In a February 1994 interview with Yuriy Rogshin of the Russian Nuclear Inspection Agency, the number of nuclear facility violations found in 1993 was over twenty thousand. Though many discrepancies are cleared, the operation of some nuclear facilities has been curtailed. For example, two plutonium production reactors at Krasnoyarsk 26 (southern Siberia) were shut down due to violation of "all environmental and safety norms."[133] The IB-8 NRR at the Moscow Institute of Energy and Technology had to cut operations due to a lack of qualified personnel, a common problem found throughout Russia's nuclear industry. Rogshin states that the most severe problems are found at uranium mines and enrichment facilities, nuclear weapons production plants, and nuclear waste storage sites. Due to inter-agency disputes, the Ministry of Defense often denies access to military nuclear storage sites which makes official inspection difficult. However, former military personnel serving in the Inspection Agency claim safety risks at nuclear weapons storage facilities are uniquely high.[134]

The collection and storage of approximately twenty-five thousand tactical nuclear warheads within Russia poses a very real threat. Russia has told the United States that between two and three thousand warheads a year are being dismantled.[135] However, inventories are not accurate and security for the more than one hundred storage facilities is limited or nonexistent[136] It is estimated that fifty tons of weapons-grade plutonium will be from the dismantlement process,[137] plus approximately sixty tons from plutonium production facilities over the next ten years.[138]

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[133] "Nuclear Agency Chief Views Safety Issues, Uranium Thefts," from *DIE WOCHE*, in JPRS Report Central Russia, JPRS-TND-94-007, 24 February 1994, p. 1.

[134] Ibid., p. 1-3.

[135] William C. Potter, Leonard S. Spector, Nuclear Successor States of the Soviet Union: Nuclear Weapon and Sensitive Export Status Report, Carnegie Endowment for International Peace and Monterey Institute of Intentional Studies no. 1 (Washington, D.C., Carnegie Endowment for International Peace, May 1994): 9.

[136] "Nuclear Expert Describes Security Measures as 'Outdated'," from *DER SPIEGEL*, in Daily Report Russia International Affairs, FBIS-SOV-94-162, 22 August 1994, p. 2.

There are at least ten locations in Russia that have separated weapons-usable (fissile) material with quantities sufficient to make one or more nuclear weapons.[139] Almost all the facilities have plutonium and or uranium enriched to 90 percent or greater (HEU). The functions related to these facilities range from warhead design, assembly, and dismantlement, plutonium and tritium production, spent fuel reprocessing, fuel pellet fabrication, research reactors, and fabrication of mixed-oxide fuel elements (MOX). Because Russia is a nuclear-weapon state party to the Non-Proliferation Treaty, it is not required to place its nuclear facilities under IAEA safeguards. Besides the above ten sights, there are approximately 35 to 40 more locations and administrative districts that contain nuclear weapons or sufficient quantities of fissile material to build one or more nuclear bombs. The criteria for a nuclear bomb is considered here to be either five kilograms of plutonium or fifteen kilograms of HEU.[140]

Vladislav N. Misharin feels that the world's media and leaders have a justified concern about the possibility of nuclear material theft. With the rise of internal criminal and anti-social elements as well as the relative transparency of over eight thousand miles of borders, the ideal culture for proliferation has been created. Misharin feels that Russia's inherited nuclear security system "was designed to guard against isolated instances of abuse that were assumed to take place against a background of rigid discipline and social control. The system was not designed to protect against public turmoil."[141] This underscores the essence of the new proliferation threat being reiterated throughout this thesis.

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[137] "Growing European Concern Over Nuclear Smuggling Issue," from *THE EUROPEAN*, in Daily Report International Affairs, FBIS-SOV-94-053, 18 March 1994, p. 2.

[138] Nelan, "Formula For Terror," p. 49. The amount of 60 tons is an extrapolation from a combined US-Russian total of 110 tons of plutonium.

[139] Potter, "Nuclear Successor States," 12-14. The 10 locations are: Aramas-16; Sverdlovsk-45; Zlatoust-36; Chelyabinsk-65; Krasnoyarsk-26; Tomsk-7; Sverdlovsk-44; Inst. of Physics and Power Eng. (Obninsk); Lenin Inst. of Physics (St. Petersburg); and Scientific Research, Inst. for Atomic Reactors (Dimitrovgrad).

[140] Ibid., 12-18.

This view is shared by others inside the nuclear community. A. Dyakov at the Moscow Institute for Technical Physics states that the safety systems in place no longer suit present conditions. He shares the view of his colleagues in that one of the weak links in nuclear security are the research institutes. These places act as the crossover point between civilian and military sectors and provide thousand of personnel access to weapons-grade materials. Quite often, plutonium production plants still practice establishing a nest-egg of extra plutonium to fulfill orders when production drops. The plutonium produced is always an approximate amount, thus hiding surplus production. Exact figures are simply not the way the industry had practiced in previous decades. Further complicating the security picture is those security personnel once employed by the KGB are now paid through the funds of each nuclear facility. Due to tight budgets, the number of security personnel has been scaled back.[142] The ramifications for potential undetected leaks of plutonium are quite glaring. It is conceivable that security personnel and the nuclear facility operators view the illegal transfer of their nuclear material as being mutually beneficial in terms of financial gain and economic survival.

#### *a. Example. The Breach of Security*

Interpol reports that radioactive materials have been stolen from a wide range of source. In 1993, Russian authorities stated that there were over nine hundred 900 attempts to penetrate nuclear facilities and 700 instances where workers tried to smuggle out nuclear material.[143]

Germany's Federal Office of Criminal Investigations (BKA) reports that from 1991 to 1993 the number of cases involving nuclear material increased from 41 to 241. The number of cases for the first six months of 1994 is down 30 percent from 1993, at a level of about ninety. However, BKA does point out that although the quantity of instances has decreased, the quality of nuclear material being confiscated has dangerously increased. Problems with plutonium and highly enriched uranium have become more abundant.[144] In May, six grams of plutonium enriched to 99.7 percent was found during the arrest of Adolf Jaekle in Baden-Wuerttemberg.[145] In August, one arrest yielded 350 grams of 87 percent enriched plutonium, 200 grams of uranium, and 200 grams of lithium-6.[146] **These cases represent "the crossing of a boundary," the indication that a new dimension of nuclear smuggling is occurring on the international scene.** Wilhelm Gmelin, director of Euratom, expresses his concerns about weapons-grade plutonium available on the market. "It is very, very alarming. A boundary has been crossed that should have never been crossed."[147] Those who can remove small quantities of these materials may be able to gain access to larger amounts.

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[141] Misharin, "Disintegration," 113.

[142] "Nuclear Expert Describes," FBIS, p. 2.

[143] "Growing European Concern," FBIS, p. 1.

The decreasing centralized national command authority has also allowed criminal activity to increase. It is believed that much of the nuclear material stolen is low-grade uranium and radiological or chemical weapons. It has been reported that these products have been used between rival gangs, thus causing concern for the greater population. Other materials are stolen for sale within Russia or elsewhere. Authorities often gloss over these cases, but this may be due to their inability to prevent these criminal acts or even pinpoint the players.[148]

The decaying economic structure and the subsequent de-emphasis of the nuclear industry has also caused the brain-drain (discussed in Chapter III) among the estimated twenty-five thousand experts in the nuclear field. Although most of these experts have chosen to stay in Russia, some have quit their jobs to seek more profitable ventures. Others have chosen to emigrate to the West, Central Asia, the Middle East, Africa, and South Asia. Countries like North Korea, Iraq, and Iran have been actively pursuing the employment of former Soviet nuclear specialists.[149]

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[144] "BKA Warns of 'Dramatic Increase' ," FBIS.

[145] "Report Views Weapons-Grade Plutonium Find," from *DER SPIEGEL*, in Daily Report Germany, FBIS-WEU-94-139, 18 July 1994, p. 1.

[146] Craig Whitney, "Germans Suspect Russian Military In Plutonium Sale," New York Times, 16 August 1994, p. A6.

[147] "Report Views Weapons-Grade Plutonium Find," FBIS, p. 2.

[148] Misharin, "Disintegration," 103-4.

The cases from Appendix A demonstrate that virtually all sectors of the nuclear industry are vulnerable to penetration and theft. The arguments put forth by proponents of Russia's nuclear security structure are defending a system that in reality does not exist. There seems to be no national policy or consensus on nuclear safe keeping. As stated by a German journalist, "...the outdated nuclear facilities are a greater threat than ever to Russia and the world. They are time-bombs, for whose detonator there is no secure overall control anymore."[150]

### 2. Material Control & Accounting

There is a growing belief among those studying the developments in the nuclear successor states that it is only a matter of time before *significant* amounts of weapons-grade fissile material or components of nuclear weapons are diverted. Reasons for this doubt center on a number of key indicators: (1) the placement of priorities of hard currency and personal profit over those of any form of export controls; (2) and strong evidence of deficient safeguard systems for fissile material in the NIS; and (3) confirmed cases of weapons-grade plutonium diversion out of Russia.[151]

As the CTR programs concentrate on reducing nuclear arsenals and converting the MIC, increased attention and action must be directed toward physical security. Specifically, these efforts need to address the threats posed by non-state actors. Commonly referred to as "national safeguards," these include emphasis on material control and accounting (MC&A) and physical security, as applied by a national government, "to detect, deter, prevent, or respond to the unauthorized possession or use of nuclear materials."[152]

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[149] Ibid., 108-9.

[150] "Report Views Weapons-Grade Plutonium Find," FBIS, p. 1.

[151] William C. Potter, "Nuclear Insecurity in the Post-Soviet States" Nonproliferation Review 1 no. 3, (Spring-Summer 1994): 61.

The national safeguards in the nuclear inheritor states and regions exist in various strengths and applications, but the similarity they all share is their generally insufficient suitability in meeting international standards or stopping today's proliferators. However, even the Soviet system, which ran under a system of centralized directives, was not uniformly instituted and did not adhere to international norms. Even within the same ministry, approaches toward physical protection were implemented differently, especially between civilian and defense installations. When the Soviet system collapsed, the already inconsistent regulations and standards further degraded. This left the individual states, if not the individual facilities, without direction and as one official stated, "we started sailing on our own..."[153]

Many of the successor states did, in theory, try to establish their own standards according to international levels, but the void between the political commitment to adopt such standards and the capability to implement this commitment could not be overcome. Obstacles to be overcome range from economic to psychological in nature. The nuclear successor states are only two or three years old. The difficulty of establishing a comprehensive legislative work to deal with export controls, MC&A, and other demands from the world community often take a position secondary to those of maintaining even minimal political social order.[154]

Undermining any effort at physical security and material control is the overwhelming need for employees of the nuclear field to have hard cash. With greatly diminished salaries, the temptation of accepting work in other occupations, or even bribes, is not out the realm of reality. As stated by one Ukrainian official stated, "When a bribe is on the order of the amount of money he would earn in the rest of his life, I don't know that every person could resist, and still continue to carry out his duties." Adding, "Therefore, when you ask a question about the efficiency of physical protection, this is a question that doesn't have an answer."[155]

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[152] Ibid., p. 62.

[153] William C. Potter, Emily Ewell, Elizabeth Skinner, "Nuclear Security in Kazakhstan and Ukraine: Interview with Vladimir Shkolnik and Nicolai Steinberg," Nonproliferation Review 2, no. 1, (Fall 1994): 50.

[154] Ibid., 47.

Similar inferences can be drawn from the closely related topic of material accounting. Under the Soviet Union, **no system of accounting existed until 1984**, and the system implemented thereafter did not meet the standards of the international system. As for the cohesiveness of this system, each ministry (even within ministry), had their own separate accounting systems. Therefore, civilian industries, the Ministry of Internal Affairs, the KGB, and the Army and Navy, all had their own systems.[156]

As can be imagined, nothing exists that resembles an accurate inventory of radioactive sources and nuclear materials. Ukraine has been trying to establish its accounting system and their data reveals that "somewhere from 100 to 50,000 sources of radioactivity"[157] exists in their country alone. This can be explained in part by the fact that the system of accounting which did exist in the FSU civilian and military reactor and reprocessing sectors was not concerned about exact amounts of plutonium. What mattered to the Soviets was the number of fuel assemblies, and more so for knowing the number of spent assemblies being shipped off for reprocessing. The exact quantity of plutonium, in kilograms, was inconsequential. In fact, some spent fuel as that from RBMK-type reactors was never reprocessed: accounting here had no specific function. Scientists are trying to backtrack and recalculate the approximate amounts of uranium and plutonium produced,[158] but the history of uncharted production stretches back decades. Chaos abounds.

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[155] Ibid., 48

[156] Ibid.

[157] Ibid.

[158] Ibid., 48-49.

If one examines the substantiated cases of weapons-grade nuclear material diversion , the potential threat of highly dangerous material being smuggled out of Russia becomes clearer. The seizure of six grams of plutonium in Tengen, Germany, on 10 May 1994 was determined to be 99.75 Pu-239. This is very high quality weapons-grade material. Through isotope analysis, the likely source of the material was a plutonium production facility in Russia. It is believed that the plutonium was obtained from the waste streams of the reprocessing site.[159]

Provided the isotope analysis is correct, there are people who believe that if IAEA safeguarding standards had been in place, this plutonium collection and diversion could have been prevented. However, closer examinations of the IAEA standards reveal some inherent shortcomings that increase the chance for diversion. For example, **if** one assumes that Russia meets IAEA standards at all of its reprocessing, production, and storage facilities, we can apply a term known as "material unaccounted for" or MUF. This factor allows for inaccuracies in scales and other measuring devices and is called MUF sigma. The IAEA accuracy value for MUF sigma is 0.3 percent and measurements below this level are considered a mistake in scientific evaluation. So, everything that is below the 0.3 percent MUF sigma is suspect for accountability purposes. To make this a bit easier to understand, apply this error factor to Russia's official claim that some ninety tons[160] of weapons-grade plutonium are in storage: the resulting MUF is 300 kg of Pu-239, enough for **fifty** warheads.[161] (Actually, the math for this using 0.003X816k kg = 2,440 kg, enough for over 400 warheads, using 6 kg Pu per warhead.)

The problem here is characteristic of the entire international nonproliferation regime. It assumes that IAEA-type safeguards will mean thorough accounting with only a small amount of insubstantial error. However, this allowable and seemingly small error compounds itself as the nuclear system grows. The unintended result is a nuclear nightmare that threatens U.S. and international security. As the years of nuclear development roll by, the amount of nuclear material accumulating increases, as does the proportional level of "MUF." The level of chaos and uncertainty have expanded to the point where the application of solutions such as the NPT, IAEA, and export control no longer address the magnitude of the problem.

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[159] Potter, "Nuclear Insecurity," 62.

[160] Most estimates place the actual level of weapons-grade plutonium between 125 to 200 metric tons. The MUF for these amounts will, fortunately, increase proportionally.

[161] Potter, Ewell, and Skinner, "Nuclear Security, " 52.

#### *a.* ***Evaluation***

The program of MC&A can be examined on two different levels: the national-system level and the sub-system level. At the national-system level there are a number of institutions and organizations who have a role in the custody and control of nuclear materials. In Russia for example, the following groups claim to have some influence in the nuclear MC&A arena: Minatom, GAN, Ministry of Shipbuilding, Committee for Defense Industry, Ministry of Transportation, just to name a few. Within this system can also be included the Navy and Army departments and possibly even individual facilities. As stated earlier in Chapter VI, the theoretical comprehensive nuclear authority in Russia is Gosatomnadzor or GAN. However, GAN not only lacks political and financial backing, it suffers from a severe lack of respect from the other national nuclear players.

For example, GAN would like to inventory naval nuclear fuel storage facilities to verify recorded quantities. The problem is that the duality of control exerted by the Ministry of Shipbuilding and the State Committee for Defense Industry, claiming custody for reactor fuel stocks and strategic fuel stocks respectively, refuse any intrusion by GAN. At best, GAN is allowed to count the number of storage containers, but not their contents. It is believed that no inventories have been conducted on the past ten or more years, and this is not limited to just naval facilities. GANs rejection by many nuclear agencies is endemic of the bureaucratic infighting, and also because these agencies fear that GAN just might find something missing.[162]

Examination of the sub-system level of MC&A reveals that the possibility of missing material is quite real. This level looks at the nature of actual control of the nuclear material. The United States uses a system of centralized training and qualification, unified regulation and information systems, and physical protection based on technical and tangible assets. Most, if not all U.S.-style measures are nonexistent in Russia and the other nulcear inheritor states.[163] Although negotiations continue on the improvement of these standards, the system in place today is much like that of the old Soviet version: one that was based on "personal responsibility in which a designated person was entrusted with the nuclear material until it was passed on to another designated individual."[164]

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[162] Potter, "Nuclear Insecurity," 62-63.

The premise behind the accounting system was, and still is, for financial accounting and material planning. Along with the lack of national uniformity in regulations and duality of control at the nation-system level, the "human factor"[165] at the sub-system level represents a major hole Russia's MC&A. The once highly regarded nuclear elite contained loyal and obedient workers within a rigid social structure that placed zero monetary value on nuclear material as a commodity. With the collapse of this elite status, the reliability on the individual person has been greatly degraded. Widespread corruption and crime have lowered moral standards in all realms of the MIC and the nuclear industry is not excluded. The diversion threat of utmost concern is from the **inside** of Russian and inheritor states nuclear industry.[166] A knowledgeable, experienced, and corrupt individual (s) working with the material make the human factor one of the weakest links in nuclear safeguards. Coercion from outside criminal organizations, or desires for personal profit or political gain mark the human factor as a legitimate and accessible target.

The sub-system level problems are exacerbated by the lack of support from higher authority. Funds promised by Minatom to its own subordinate commands designated to combat nuclear issues have not been delivered. Institutions dedicated to resolving problems with fissile material control under a March 1993 Minatom safeguards program have been crippled due to the void in political will and funding shortfalls. Links between the already limited R&D programs and production facilities are causing greater gaps in safeguard initiatives. Production facilities are cutting costs by eliminating material control personnel, even with the increased demands for safeguards due to warhead dismantlement.[167] Despite international efforts, the situation in the successor states has worsened, and prospects for the immediate future are dim.

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[163] Oleg Bukharin, "U.S.-Russian Cooperation in the Area of Nuclear Safeguards," Nonproliferation Review (Fall 1994): 30.

[164] Potter, "Nuclear Insecurity," 62.

[165] Bukharin, "U.S.-Russian Cooperation," 31.

[166] Ibid.

### 3. Material Control & Accounting and Cooperative Threat Reduction

The Cooperative Threat Reduction Act (CTR) will be fully outlined and critiqued in Chapter VII in greater detail. However, it is important to discuss here how the CTR applies to MC&A programs in the NIS.

The efforts of MC&A cooperation between the United States and the NIS can be divided into four general categories. The first is the DOD CTR program which is also referred to as either Nunn-Lugar and Government-to-Government, or "Gov-to-Gov." The second is a relatively new initiative administered through the Department of Energy (DOE) called the Laboratory-to-Laboratory Nuclear Materials Protection, Control, and Accounting Program, or "Lab-to-Lab." The next category falls under the International Science and Technology Center (ISTC) efforts, funded by Nunn-Lugar, that employ NIS nuclear scientists to help develop solutions to nuclear issues. The last general category comes under Nuclear Regulatory Commission (NRC) efforts to help GAN develop safeguards within Russia.[168]

The latter two programs have received little attention and scrutiny because they, especially the ISTC program, have been obligated small funds. The ISTC program as of 27 February 1995 was obligated $23.2 million of the proposed $61 million, with $23.057 million going to Russia.[169] Efforts by the NRC have been delayed by GANs inability to build credibility within Russia and gain access to much of the nuclear industry.

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[167] Ibid., 31-32.

[168] Thomas B. Cochran, "U.S. Assistance to Improve Physical Security and Accounting of Fissile Materials in Russia" (Remarks on a presentation given at the Carnegie Endowment for International Peace Conference, 31 January 1995), 1.

The first two categories have received, or will receive, most of the U.S. government funding. Because of this, they also received much of the examination and criticism. The CTR program, in place the longest, has been criticized, and rightly so, by both government and non-government bodies. The primary problems indicated rest squarely on the fact that there was no specific plan of action prior to, or for many months after, the decision by Congress to give transfer authority of $400 million of DOD FY 1992 Appropriations to the Nunn-Lugar Act.[170] Characterized as "too late, too little, and too slow,"[171] the CTR program has failed in the critical area of improving the material protection, control and accounting of Russia's nuclear industry. As will be discussed below, it can be argued that the CTR program has also failed in its objective of the reducing and eliminating the WMD in the NIS.

The blame for the failure of the Nunn-Lugar program can be directed at more than one area, but much of it falls on the Executive Branch. Starting with the Bush administration and cascading into the Clinton administration, failure was destined given the lack of planning, managerial skills, political will, and most of all a firm grasp of the enormity of the nuclear problem following the Soviet collapse.[172] Although the reduction of WMD is important in its own right, the focus of U.S. efforts should be less myopic and should as a minimum encompass the threat posed by the whole nuclear inheritor states industry. Beyond this, solutions can be found be addressing the economic miseries that are rippling through the political and societal spheres, resulting in chaotic conditions.

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[169] Mendelsohn and Lockwood, "U.S. Security Assistance," p. 24. See Table 7.1 for more information.

[170] Senator Sam Nunn, "Reducing the Soviet Military Threat," (Remarks to the U.S. Senate, 7 February 1992), p. 3.

[171] Cochran, "U.S. Assistance," p. 2.

[172] Ibid., p. 2, 6.

### *a. Project Sapphire*

The CTR program known as Project Sapphire is often championed by the Clinton Administration as a significant step toward the reducing the nuclear threat posed by the NIS. However, closer examination of this case reveals the relative emptiness of this achievement. Project Sapphire was a deal between the United States and the Kazak Republic to remove six hundred kilograms of HEU from the latter territory. The HEU, enough to make approximately twenty nuclear weapons, was transported to the Y-12 plant at Oak Ridge for storage. The HEU itself was intended for use as naval fuel and served little interest to Kazakhstan. The cost of Project Sapphire was reportedly over $100 million.[173] Secretary Perry comments on Project Sapphire, "We have put this bomb-grade nuclear material *forever* out of the reach of potential black marketers, terrorists or new nuclear regimes ... This is defense by other means and in a big way."[174]

First, forever is a long time, especially with nuclear material having half-lives of 20,000 years. Second, on the grand nuclear scheme, the six hundred kilos of HEU represent approximately **0.05 percent** of the estimated 1,200 metric tons of separated weapons-grade fissile material in the NIS, enough to make over **60,000 additional warheads**. This does not include the estimated 28,000 warheads still in existence. Most of these materials exist in Russia, not Kazakhstan,[175] and Russia continues to produce two to three tons of plutonium annually.[176] Given the immense magnitude of the nuclear inheritor regions nuclear capacity, it is clear that efforts to protect and account for this material must be greatly increased if we truly intend the have "defense by other means and in a big way."

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[173] Mark Thompson, "Sapphire's Hot Glow," Time, 5 December 1994, p. 38. U.S. officials said that the HEU was enriched to ninety percent. The six week operation filled over 1050 55-gallon drums with small portions of HEU and were transported via USAF C-5s back to the United States.

[174] Ibid., p. 39. Emphasis added.

[175] Cochran, "U.S. Assistance," p. 4. The estimate of 1,200 tons of stored weapons grade material is based on 1000 tons of W-G HEU and 200 tons of W-G Pu. One warhead consists of either 5-6 kg of Pu-239, or 30-35 kg of HEU.

[176] Thomas B. Cochran, "Disposition of Fissile Materials from Weapons" (Paper presented at the International Policy Forum Management & Disposition of Nuclear Weapons Materials, Lansdowne, Virginia, 22 March 1995), p. 8.

Another U.S. effort is the proposed deal to purchase five hundred tons of HEU recovered from warhead dismantlement. The contract, brokered between United States Enrichment Corporation (USEC) and the Russian Federation, calls for the HEU to be converted to LEU prior to transport and will take place over a twenty year period.[177] At $11.9 billion for the total deal, the price per kilogram is $780. The effort, however, may be dying a slow and fruitless death. Due to contract stipulations, implemented by DOE, Russia will not receive payment for the uranium until one of following occurs: (1) the contract expires in 2013; (2) the uranium is sold; or (3) it is used to overfeed U.S. enrichment plants. The concern on the Russian side is that Minatom is expected to pay for the blending and pay for the uranium feed up front. This whole process leaves Minatom with very little profit and bitter resentment toward USEC and the U.S. government. Into its second year, the program has converted only two metric tons of HEU and no delivery of LEU has been made to the United States.[178]

The CTR program has also funded other notable efforts that deem only brief mention because they demonstrate a pattern of linear, easy-solution reactions employed by the U.S. government. First there is the purchase and delivery of rail car conversion kits ($21.5 million)[179] and heavy equipment like bulldozers and road graders ($8 million)[180]. It is a wonder that Russia, with its huge industrial sector, could not provide these items on their own and save millions in CTR funds. Second is the development and partial delivery of fissile material containers and the construction of a storage facility. Nearly all of the $50 million has been contracted out, but actual deliveries of the expected 42,000 containers number in the tens. The use of these containers implies that a modern and secure facility will exist for their housing. CTR funds have been used to help design a 'generic' facility ($14.999 million actually obligated), but the construction of the facility located at Chelyabinsk has been delayed by bureaucratic red tape and by wavering Russian commitment. $26.5 million, of $75 million available, has yielded the clearing of physical site, but Russian funding and construction have yet to commence.[181]

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[177] Ibid., p. 5. The rate of transfer calls for 10 t of HEU equivalent per year for the first 5 years, followed by 30 tons equivalent per year for the next 15 years.

[178] Ibid., p. 6.

[179] Perry, "Second FY 1994 Semi-Annual Report," p. 46.

[180] Cochran, "U.S. Assistance," p. 5.

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[181] Perry, "Second FY 1994 Semi-Annual Report," p. 43-45.

# VII

In this chapter, we will outline the Cooperative Threat Reduction (CTR) program, covering its legislative background and applicability to the nuclear issues in the new nuclear successor states brought about by the Soviet collapse. CTR is the United States most recent and best effort at assisting Russia and the nuclear successor states to control their respective nuclear industries. As a result of our analysis, we will see that the CTR is a mild, short-term fix plagued with indecision and an inability to deliver most of its funds to proposed programs.

## A. COOPERATIVE THREAT REDUCTION, NUNN-LUGAR

### 1. Background of Legislation

The CTR was developed out of concern for the safety of Soviet nuclear weapons following the attempted coup against Mikhail Gorbachev on 21 August 1991. On 28 August, then Representative Les Aspin (D-WIS) suggested that a humanitarian aid provision for $1 billion be added to the DOD authorization bill. DOD funds were to be transferred for emergency food and other humanitarian aid for the Soviet people. The Aspin proposal drew heated opposition from the Republican Administration as well as from Sam Nunn (D-GA), Chairman of the Senate Armed Services Committee. Nunn felt that instead a transfer of DOD funds on humanitarian grounds, funding should be used to help convert the Soviet defense industry to civilian uses.[182]

Details of a tentative Aspin-Nunn provision were worked out be 13 November 1991, but the political mood in America was shifting toward a domestic agenda. The provision was criticized by Democrats and Republicans for spending $1 billion on Soviet problems instead of American issues. Consequently, the proposed aid package was rejected and dropped from the Department of Defense Authorization. However, within two weeks Senators Nunn and Richard Lugar (R-IN) proposed to the Senate an amendment to the Conventional Forces In Europe Treaty Implementation Act of 1991. The amendment, passed by the Senate on 25 November and becoming Public Law 102-228 on 12 December, called for up to $400 million to be spent predominately on the dismantlement nuclear weapons belonging to the Soviet Union and its successor states. The same day Congress approved the transfer of $400 million from DOD funds through Section 108 of the Dire Emergency Supplemental Appropriations Act of 1992. As Public Law 102-229, the Nunn-Lugar act would be provided for from already approved DOD programs for Fiscal Year 1992. A similar transfer of $400 million was authorized for FY 1993. Subsequent Nunn-Lugar CTR funding has been provided through specific appropriations, not transfer authority.[183]

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[182] Theodor Galdi, "The Nunn-Lugar Cooperative Threat Reduction Program for Soviet Weapons Dismantlement: Background and Implementation," Congressional Research Service, 29 December 1993, CRS-1.

### 2. Where the Money is Obligated

The total amount of funding authorized by Congress, as of February 1995, for the CTR program has reached $1.6 billion. However, $330 million of this was lost due to DOD failure to appropriate funds before expiring.[184] In fact as of 30 June 1993, CTR programs had spent almost none of their available funding. Figures show that $476.4 million had been proposed for obligations, of which $44 million had actually been obligated and only a small portion of that had been expended. Delay in the use of CTR funds at this time were said to be caused by the concluding times of project agreements and the long-term nature of certain programs. These issues in turn delayed the notification of Congress by DOD as to the amount and source of funding in each program, and the respective obligation laid out by Congress to meet it. The long-term nature of the programs also drew out the actual expenditures.[185]

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[183] Ibid., CRS-2-5. FY93 funding was provided through P.L. 102-484 and P.L. 102-396, which also allowed FY92 Nunn-Lugar funds to be carried over into FY93. FY94 authorization and appropriation bills allowed for another $400 million through P.L. 103-160 and P.L. 103-139.

[184] $212 million of FY92 transfer authority funds and another $118 million of FY93 transfer authority funds had failed to be obligated by 30 September 1993. Calculations are based on 29 December 1993 "CRS Report for Congress" by Theodor Galdi (CRS-9) and February 1995 "Annual Report to the President and Congress" submitted by Secretary of Defense (p. 64).

The latest data for CTR program spending, as of 27 February 1995, demonstrate that of the $1.27 billion currently available for obligation, $1.181 billion in obligations have been proposed to Congress, $497.9 million has been obligated through signed contracts, and only $150 million has been spent. As of late March, the Senate and House were negotiating in committee the House proposal to cut $80 million from the FY95 appropriation bill of $400 million.[186]

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[185] Galdi, "The Nunn-Lugar Cooperative Threat Reduction," CRS-9, 13.

[186] Jack Mendelsohn and Dunbar Lockwood, "U.S. Security Assistance to the Former Soviet Union," 23 no. 5, Arms Control Today (April 1995): 24-5. See Table 7.1, next page.

TABLE 7.1

| RECIPIENT | UTILITY | PROPOSED($ millions)[187] | OBLIGATED($ millions)[188] |
|---|---|---|---|
| Russia | Armored Blankets | 5.0 | 3.244 |
| | Railcar Security/Weapons Security | 41.5 | 21.5 |
| | Emergency Response | 15.0 | 11.972 |
| | Material Controls | 45.0 | 2.095 |
| | Storage Containers | 50.0 | 49.363 |
| | Facility Support | 75.0 | 26.526 |
| | Facility Design | 15.0 | 14.999 |
| | Export Controls | 2.26 | 0 |
| | Science Center | 35.0 | 23.057 |
| | Chemical Weapons Destruct/Lab | 55.0 | 20.391 |
| | Strategic Offensive Arms Elimin. | 150.0 | 84.098 |
| | Arctic Nuclear Waste Assessment | 30.0 | 19.480 |
| | Defense Conversion | 60.0 | 17.133 |
| | R&D Foundation | 10.0 | 0 |
| | SUBTOTAL | 599.96 | 300.9 |
| Belarus | Emergency Response | 5.0 | 4.288 |
| | Communications Link | 2.3 | 0.713 |
| | Export Controls | 16.26 | 2.663 |
| | Science Center | 5.0 | 0 |
| | Environmental Restoration | 25.0 | 6.795 |
| | Defense Conversion | 20.0 | 9.969 |
| | Strategic Offensive Arms Elimin. | 11.0 | 0 |
| | Military-to-Military Contacts7 | .0 | 0.175 |
| | SUBTOTAL | 91.56 | 24.573 |
| Kazakhstan | Emergency Response | 5.0 | 2.005 |
| | Communications Link | 2.3 | 0.332 |
| | Export Controls | 2.26 | 0.301 |
| | Science Center | 6.0 | 0 |
| | Material Controls | 5.0 | 3.029 |
| | Military-to-Military Contacts | 0.9 | 0.074 |
| | Strategic Offensive Arms Elimin. | 87.0 | 0.167 |
| | Defense Conversion | 25.0 | 5.146 |
| | SUBTOTAL | 133.07 | 11.054 |
| Ukraine | Emergency Response | 5.0 | 2.002 |
| | Communications Link | 2.4 | 0.35 |
| | Export Controls | 7.26 | 3.164 |
| | Material Controls | 12.5 | 4.495 |
| | Science Center | 15.0 | 0.144 |
| | Strategic Offensive Arms Elimin. | 215.0 | 81.987 |
| | Nuclear Reactor Safety | 11.0 | 11.0 |
| | Military-to-Military Contacts | 5.9 | 0.518 |
| | Defense Conversion | 50.0 | 38.284 |
| | SUBTOTAL | 324.06 | 141.944 |
| | Defense Enterprise Fund/Assess. | 32.07 | 19.458 |
| | **TOTAL** | **1,181.11** | **497.929**[189] |

* Jack Mendelsohn and Dunbar Lockwood, "U.S. Security Assistance to the Former Soviet Union," Arms Control Today, 23 no. 5, (April 1995): 24-5. Sources: Department of Defense, Department of State, Defense Budget Project.

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[187] As of 3 February 1995.

[188] As of 27 February 1995.

[189] Through the end of February 1995, it is reported that only $150 million of the obligated $497.929 million has been actually spent.

Congress has delegated responsibility to the Department of Defense for a number of activities under the CTR program. Specifically, DOD tasks include: (1) destroy nuclear, chemical, and other weapons of mass destruction; (2) transport, store, disable and safeguard weapons in connection with their destruction; and (3) establish verifiable safeguards against the proliferation of such weapons.[190] Title XIV of the FY93 DOD Authorization Act (P.L.102-484) added three additional tasks: (4) demilitarization and conversion to civilian purposes the industries of the NIS; (5) establish science and technology centers in each state of the NIS to employ nuclear scientists; and (6) expand contacts between U.S. and NIS military personnel.

## B. DIVISIONS OF FUNDING AND PURPOSE

The six CTR program objectives assigned by Congress are being carried out through a series of activities that fall into four general categories. As stated by DOD sources, the first category encompasses the Destruction and Dismantlement programs and consumes fifty percent of proposed CTR obligations. Designed to reduce or eliminate WMD and their launcher systems, these activities include training, equipment and inducements to the four nuclear successor states. The Second category, possessing twenty-nine percent of proposed obligations, is Chain of Custody. Activities in this grouping address security and custody for nuclear warheads and fissile materials in the successor states that present a potential threat to the United States and this region.[191]

The third grouping is the support activities for Demilitarization. With sixteen percent of the proposed obligations, the aim of these programs is to reduce production capabilities for WMD by converting or eliminating certain military industries. Through a system of industrial partnerships, they are intended to "prevent proliferation by reducing both the supply of WMD available for foreign sale or diversion and the incentives for relying on such sales for income."[192] The last category backs "Other Programs and Support," using five percent of proposed obligations. The thrust behind these activities centers on increased military and defense contacts, the idea being the "development of democratic and civilian control of military departments and the restructuring and down-sizing of defense capabilities to better reflect these new nation's needs."[193]

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[190] "Second FY 1994 Semi-Annual Report on Program Activities to Facilitate Weapons Destruction and Nonproliferation in the Former Soviet Union," 30 October 1994, Secretary of Defense William Perry, p. 1. See Appendix D for CTR funding break down.

[191] Perry, "Annual Report," p. 65, 67. See Appendix E.

CTR activities are claimed by the Clinton administration and DOD officials as not being traditional foreign aid, but are instead "defense by other means."[194] They are eliminating the Cold War nuclear and other WMD threats "missile by missile, warhead by warhead, factory by factory, and person by person."[195] The focus and emphasis of Fiscal Year 1995 will be to "take specific steps to stop the spread of weapons of mass destruction and their means of delivery... [as part of]... the most ambitious nonproliferation agenda in history." Additionally, "The centerpiece of our global strategy is the indefinite and unconditional extension of the Non-Proliferation Treaty."[196]

### 1. Defense Conversion

The level of attention given to defense conversion efforts in the inheritor states is growing. As mentioned earlier, Senator Nunn's original plan for the conversion of Soviet military industry into civilian producers was rejected in November 1991 when it was part of the Aspin-Nunn proposal. Today, Secretary of Defense Perry is the leader and champion supporter for conversion efforts in the NIS, where some twelve percent or $155 million of available CTR funds are currently focused.[197]

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[192] Ibid., p. 66.

[193] Ibid.

[194] "Overview of the Cooperative Threat Reduction Program," p. 1.

[195] "Defense Conversion in the Former Soviet Republics: Win-Win-Win for Both Teams," point paper issued by Office of Secretary of Defense, 21 March 1995, p. 1.

[196] "Support for Nunn-Lugar Affirmed by Secretary Christopher: Non-Proliferation Agenda 'Ambitious'," Post-Soviet Nuclear & Defense Monitor, 31 January 1995, p. 2. Remarks made by Secretary of State Warren Christopher during a presentation to the Kennedy School of Government 20 January 1995.

The amount of obligated conversion funds as of 27 February 1995 is approximately $60.5 million. As mentioned above, the purpose of these conversion efforts is to reduce the capacity of the NIS to produce WMD. This has been accomplished so far through DOD arranged joint ventures, partially funded by U.S. industries, to induce spin-off products from firms in Russia, Belarus, Ukraine, and Kazakhstan. With the intention of producing goods for domestic and international consumption, Russia has received improved air traffic control, hearing aids, dental equipment, and cola. Ukraine and Kazakhstan have better commercial telecommunications capabilities, while Belarus can now charge car batteries better than ever.[198]

The ultimate result stressed here is that we have a "win-win-win for the United States and the NIS." Investments in defense conversion yield: (1) reduced "threats from the most dangerous weapons;" (2) viable commercial-market economies with the NIS to reduce "excess military capacity;" and (3) entry opportunities for U.S. companies into a potentially huge civilian market[199]

The debate over defense conversion can not be discussed properly unless one considers the full intended scope of the program. There seems to be an intentional disconnect in government statements as to the actual magnitude and focus of Nunn-Lugar funds. Although the statements provided above focus of nuclear and other WMD, this distinction is blurred by the broader reality. CTR funds for conversion are also intended to encompass major conventional industries as well.

This topic covers the range of interests and exposes the void existing between Western visions and Russian realities. Defense conversion faces a number of critical obstacles. Due to budgetary cuts and economic troubles, arms sales and reactor sales represent a valid source of much needed hard currency. Because of the monetary and political interests of Rosvoorouzhenie,[200] Minatom, and the state, many Russian officials feel that these transfers are becoming a central aspect to their country's growth. Arms sales and nuclear transfers represent some of the few areas in which Russia can globally complete with quality goods.

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[197] Mendelsohn and Lockwood, "U.S. Security Assistance," p. 24. $50 million of this amount may go away pending the outcome of Congressional committee hearings.

[198] "Defense Conversion," p. 1.

[199] Ibid.

Given the value placed on *arms* exports by an increasing numbers of Russian officials, the Western logic of defense conversion becomes less clear. Taken from a pragmatic and Russian view, why would it make sense to use money earned by exports to pay for the conversion of that defense industry. In other words, given the decline in industrial output in general,[201] why would you convert an export-producing plant that is successful at making arms into a substandard consumer-goods producer that has no market. Second, many feel that profits from successful producers could be redistributed to help convert less efficient facilities. This provides no incentive for the competitive producers to grow and seems dead on arrival. This idea is also abolished by Rosvoorouzhenie's distribution of credits to more competitive manufacturers.[202]

Consider also Rosvoorouzhenie's own profit incentive and bureaucratic survival. Why would it cut down or limit its own income derived from commissions or waste funds on inefficient plants? The answer may lie in the internal balancing between its organizational profit margin and the political capital expended as one or more of the seventy military-dependent cities experiences economic and social instability.

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[200] Rosvoorouzhenie is the new state 'company' set up to manage all conventional arms transfers. It has direct authority, and a virtual monopoly, and has a vested interest in promoting all sales due to commission fees.

[201] Julian Cooper, "Transformation of the Russian Defence Industry," Jane's Intelligence Review 6, no. 10, (October 1994): 445. In 1992, total defense industry output dropped 18 percent, with military output declining by 38 percent. In 1993, the numbers were 38 and 30 percent respectively. For the first half of 1994, they were 43 and 40 percent respectively.

[202] Edwin Bacon, "Russian Arms Exports-A Triumph for Marketing?" Jane's Intelligence Review 6, no. 6 (June 1994): 268.

The logic of the above discussion can be carried over into Russia's nuclear industry as well. Although Minatom is not technically the monopolistic enterprise charged with overall responsibility of the nuclear arena, the political and economic woes of Russia virtually dictate this reality. As discussed in chapter five, the legal overriding nuclear authority in Russia is GAN. However, the political savvy and power wheeled by Mikhailov and his one-million-employee strong Minatom have pushed GAN aside. The consequence is that, like most of the MIC, Minatom has enormous influence on the domestic and foreign policy of Russia. The threat of economic chaos and mass unemployment within the nuclear industry if plants and factories are shut down keep the industry itself alive.

The sale of reactors abroad is a series source of badly needed hard cash. The four reactor deal with Iran, for instance, alone is worth $1 billion to Mikhailov's nuclear clout. The United States is pressuring Russia to halt this sale for various reasons and is reportedly offering Minatom up to $100 million if it cancels the Iran deal.[203] Compare this offer or the $150 million CTR funds spent in all Russia to the $1 billion from the Iran Deal. Being pragmatic, as the Russians surely are, it does not take long to realize that the bottom line may very well be drawn at profit margin. Minatom can not afford to push for the sale. It, like Rosvoorouzhenie, depends on self-generate profits to feed its massive structures. Ethics and international political pressures weigh in only slightly. In fact, they may only be used convenient masks to cover what looks like state-sponsored sales nuclear material.[204]

Looking at the trend of defense conversion will also lend insight to importance of Russia's defense industry. During the middle to late 1980s, Mikhail Gorbachev tried to redirect the MIC in an attempt to increase the production of consumer goods. The effort was intended to break down the oversized defense industry to make it fit into his new view of Soviet global involvement. With over five thousand enterprises, the MIC constituted approximately 70-85 percent of Soviet industry. By the 1991 Summer coup attempts that brought down Gorbachev and ushered in Yeltsin, the success of conversion seems doubtful. Although official figures show significant increases in consumer goods produced by the MIC, many feel that they reflect creative book keeping.

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[203] Steven Greenhouse, "U. S Gives Russia Data on Irans Atom Plans," New York Times, 3 April 1995, p. A1, A6. The $100 million was offered as part of a deal to help modernize Russian reactors and clean nuclear waste sites in Russia.

[204] It can be argued that if the Russian government supports the sale of nuclear material to a nation like Iran with controversial foreign policies, the message being sent to the nuclear industry as a whole is frightening. Basically, the State is sanctioning nuclear for cash, ethics and morals aside. They are willingly promoting the very thing U.S. policy is trying to stop.

A shift away from defense conversion can be detected in late 1991. Yeltsin and his government began to emphasize publicly that arms sales would be playing a more significant role in economic recovery. By winter 1992, the production of civilian goods by defense industries began to falter, and of the 120 commercial products slated for production, only twenty-three actually did so. Of these twenty-three, only five met international quality standards. Military production was also down sixty-six to eighty percent. To prevent the breakdown of the MIC and society, Russian officials claimed they would have had to spend approximately $150 billion over five years to convert, or produce and exports arms. Given so little funding for conversion, the only option was the latter. As one official stated, "Now that we are entering seriously into the world market, we certainly need to trade in arms..."[205] Nuclear materials and technology can be implicitly added to this trend in reality.

Funding has often been considered the main deterrent toward progress on defense conversion. The $150 billion quoted above seems a bit high compared to most of the estimates from other sources. Many feel that the amount needed is approximately $20 billion. Regardless, Russia's central government has covered no more than fifteen percent of the amount needed, while foreign funding constitutes no greater than 0.3 percent.[206]

The United States is one of the leading outside contributors, yet even its obligated funding has amounted to less than a half billion dollars. The Nunn-Lugar Act has divided this money over several diverse programs. Administered originally by the U.S. Defense Nuclear Agency (DNA), Nunn-Lugar has provided $36.8 million to a conversion program called the "fast four:" a consortium of four earmarked Russia plants, the DNA, and several U.S. corporations. The four former defense plants now produce navigation systems, hearing aids, dental instruments, and yes, cola. An additional eighty-two plants have selected for conversion, but competition for the limited funds has delayed final decisions.[207] Another $20 million is going toward a prefabrication housing industry, presumed to be intended for displaced military officers.

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[205] Steven Gallant, "The Failure of Russia's Defense Conversion," Jane's Intelligence Review 6, no. 7 (July 1994): 304.

[206] Khripunov, "Conventional Arms Control Initiatives: Russia as a Special Case," Arms Control Today 24 no. 10 (December 1994): 13.

Delays are experienced because many Russians are frustrated by American visitors asking all sorts of questions and not delivering any money. This has led to Russian suspicions and hesitations toward disclosing much of anything. Other snags include U.S. payments being "lost" in bank transfers and a high inflation rate that causes Russian firms to spend their funds rapidly and ineffectively. Finally, Russia is not the only newly independent state receiving bits of the Nunn-Lugar funds; as mentioned before, programs for Ukraine, Kazakhstan, and Belarus are among the other potential recipients.[208]

The Russian decision to virtually abandon conversion can be seen through the state-backed push for arms sales in 1993 and 1994. Cases of export examples (not discussed in this thesis unless nuclear related) involve high-level government officials traveling to different regions of the world to re-establish ties broken by the Soviet collapse and to break into new export grounds. With the creation of Rosvoorouzhenie, we see further emphasis on arms for cash. Additionally, "Russia does not exist in a historical vacuum. Knowledge of this cannot be tossed aside--it must be overcome."[209] Although beyond the scope of this paper, the history of Soviet politics and internal political power struggles cannot be ignored. This must be kept in mind, and often is not, when considering policy toward Russia. From defense conversion to arms control, Russia's views often differ from the West due to its unique internal struggles and the way in which it deals with them.

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[207] Jeffrey M. Lenorovitz, "U.S.-Russian Teams Get Pentagon Funds," Aviation Week & Space Technology 141, no. 6, 8 August 1994, p. 27. The "fast four" Russian companies are teamed up with US sponsor companies: GosNIIAS with Rockwell; NPO Istok with Hearing Aids International; NPO Mashinos-troyenia with Double Cola Co.; and Leninets with International American Products.

[208] "Perry Outlines Plans to Aid Russian Defense Conversion," Aviation Week & Space Technology 140, no. 13, 28 March 1994, p. 62-3.

[209] Yuri N. Afanasyev, "Seems Like Old Times? Russia's Place in the World," Current History 93, no. 585 (October 1994): 305.

If one considers the success of extreme groups and communists in the last elections, as well as their promises to the military for a return to Soviet-era production numbers, it is no wonder that Yeltsin would give in a bit to appease the political, military, and social unrest. In the short run, arms exports and reactor sales bring in currency to an ailing economy and help prevent Yeltsin's political demise. With his failing health and increasing international pressure over Chechnya, the uncertainty of Russian export policy and overall political livelihood are questionable.

As a final remark on the issue of defense conversion, let us be reminded that the goal of conversion was to reduce the threat of WMD to the NIS and United States by converting the production capability of WMD into civilian product industries. The "fast four" mentioned earlier are often championed by Secretary Perry as prime examples of CTR success. Take for example the hearing aid company that is now "off and running" and supplying their wares to needful Russians. If you look at the justification used by Secretary Perry,[210] the inadequacy and lunacy of this endeavor stand out. Istok Audio International (IAI) used to produce microwave and laser technologies before being "converted." First, why are these talents not being utilized and expanded upon? Second, this company, presumably instrumental in producing weapons of mass destruction, is **not** what most people would consider an integral part of the nuclear war machine.

This brings about an important point: the CTR funds used for the production of hearing aids and cola cannot even be evaluated for their effectiveness at reducing the threat posed by nuclear weapons because they simply missed the whole nuclear issue. More directly, we are conceivably facing the greatest threat to human existence and our best effort is to improve the hearing capability of the Russian people. It is our recommendation that the efforts of CTR should somewhere include the production of Sunbloc 4000 and really dark sunglasses to protect yourself from the untimely detonation of a nuclear weapon composed of material diverted from the real threat to world security: the entire Russian **nuclear** industry.

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[210] See Appendix F for written statement used in the DOD Press Release.

### 2. Dismantlement

As a driving force behind the Nunn-Lugar Act, the dismantlement of nuclear weapons has been the hallmark of success, and focus of effort, stressed by the Clinton Administration. By March 1995, the CTR has helped with the removal of over 2,600 warheads from various bomber and missile bases, 750 missiles are gone from their launchers, and approximately 600 launchers and bombers have been destroyed.[211]

**It should be noted again that the number of nuclear warheads remaining in the nuclear inheritor states is not an exactly known figure. Most estimates place the level at approximately 25,000, with a claimed annual reduction rate capability of 2,500 warheads per year. However, considering that Nunn-Lugar has been working to reduce warhead numbers for over three years and only one third of the reduction capacity has been utilized.** The continued production of W-G Pu and HEU, as well as having no available secure storage facilities for dismantled warhead material, is actually increasing the amount of dangerous nuclear open to potential diversion and proliferation.

The removal of nuclear weapons from states outside Russia has seen some significant progress. Ukraine and Belarus are the most positively referred to examples from Washington. In Ukraine, over 610 of 1,734 warheads have been deactivated and approximately 360 of these have been shipped back to Russia for dismantlement and storage.[212] Included in these numbers is the deactivation of four regiments of SS-19 silo-based ICBMs.[213] Belarus has deactivated and removed more than one half of the eighty-one single-warhead mobile SS-25 ICBMs. Belarus is expected to remove the remaining systems within the next year.[214]

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[211] "Remarks Prepared for Delivery by Secretary of Defense William J. Perry at the Chicago Council on Foreign Relations March 8, 1995," no. 115-95, Office of Assistant Secretary of Defense, Washington, DC, 8 March 1995, p. 3.

[212] Perry, "Annual Report," p. 68.

[213] "Overview of the Cooperative Threat Reduction Program," point paper issued by

It is reported by DOD that over sixteen hundred warheads have been removed from their delivery systems and nine hundred of these warheads have been transported back to Russia from the republics of Ukraine, Belarus, and Kazakhstan. It should be noted that another sixteen hundred warheads remain "active" in these three republics.[215]

Kazakhstan is not discussed in detail in most of the DOD statements. Although some to the 104 SS-18 10-warhead silo-based ICBMs have been deactivated, there have been a number of delays associated with continued missile, warhead, and silo dismantlement. The main issue still being negotiated revolves around Russian objections concerning the destruction of SS-18 silos and the role played by the United States in their destruction. Specifically, Russia is weary of U.S. access to sensitive information and design characteristics. Officials from Russia and Kazakhstan are negotiating settlement details, postponing further implementation of the SS-18 destruction program.[216] As a result, CTR funding for "Strategic Offensive Arms Elimination" in Kazakhstan has only obligated $167,000 of the $87 million proposed.[217]

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Office of Secretary of Defense, 23 February 1995, p. 1.

[214] "Cooperative Threat Reduction in Belarus: A Shining Example," point paper issued by Office of Secretary of Defense, 21 March 1995, p. 1-2.

[215] Perry, "Annual Report," p. 64, 68.

[216] "Second FY 1994 Semi-Annual Report," p. 38.

[217] Mendelsohn and Lockwood, "U.S. Security Assistance," p. 25. See Table 7.1 for a complete CTR funding list.

# VIII. CONCLUSION

## A. SUMMARY: THE REAL PROLIFERATION THREAT

When the Soviet Union collapsed in the early 1990's, it left a large nuclear legacy. While there has not been a yard sale of Russian nuclear materials and weapons world wide. What it does mean though, is that there are now 950 nuclear research, test, and weapons sites spread throughout Russia and the nuclear inheritor states that are under marginal positive controls. These facilities were, for the most part, kept in closed regions and cities designed to prevent the diversion of nuclear materials within a rigid, well ordered society, not a society bordering on further collapse. The physical security, material control and accounting programs, based on the human factor do not adequately address this new, wide open milieu emerging in the NIS today.

The dynamic reasons that the USSR collapsed economically, politically, socially, and spiritually in themselves are inconsequential to the discussion. What is important, however, is that the collapse has allowed serious criminal forces to fill the void left by the communists. This, combined with the rampant corruption the Aparatchek has come to be known for, makes combating these criminal elements more difficult. Nuclear materials can be fairly easily diverted at numerous places in Russia by these criminal entities or disillusioned employees, which indicates a substantial threat of proliferation. With unchecked borders and the ease of international smuggling, one might believe that only a small percentage of the nuclear materials moved so far have been detected, and successfully seized. If this is the case, then nuclear materials are much more readily available then they were in the past. When one adds it to the phenomenon that there is a relatively large demand for these technologies and materials, the size of the threat becomes disturbing. The world has seen in the last thirty years numerous nuclear proliferators, near proliferators, and virtual proliferators. There are still those today seeking nuclear technology for military purposes. This trend will likely continue and should be addressed by policy makers.

What has been discussed thus far leads one to see the serious proliferation threat of today and tomorrow more clearly. While the behavior of the international community is crucial in the nuclear proliferation arena, it is insignificant to this discussion. Why nations seek nuclear weapons has and will be debated by Realists, Neo-Realists, Structuralists and all others who study the realms of international relations and interactions. Rational actors, balancing, international security, or whatever the reason or theory one supports, nations have and will continue to seek weapons. This is because nuclear weapons might provide them status or act as an advantage or equalizer to their "perceived" enemies and threats. The bottom line is that one's perceptions are always one's reality.

Nuclear proliferation has not occurred in a vacuum. Internationally, the world community, super-powers, the United Nations, NATO, the Warsaw Pact, and others have through various treaties, accords, and international watch dog organizations attempted to prohibit nuclear proliferation. We have been unsuccessful in this endeavor. Of this there can be no real debate, since a little is always too much. Today, proliferation of nuclear materials has become considerably easier and with the loss of a bi-polar world, incentives to proliferate have become greater. What has not kept pace are the nonproliferation programs and strategies to minimize this source of weapons material proliferation and its threat to the world today. In fact no organization or program seriously addresses nuclear proliferation from sub-state actors. This oversight has, in the past assisted nations in their quest for nuclear weapons and will to a greater extent, continue to do so in the future.

## B. RECOMMENDATIONS

There will most likely be a non-peaceful detonation of a nuclear device, by a nation-state or a sub-state actor, within the next ten years. This statement arises because there are certain problems, commonly defined as "non-linear," that cannot be solved. As a result what must be done is to manage these un-solvable non-linear situations a best as we can. This will result in very specific and diverse solutions which are to be discussed here in greater detail. What will be attempted in the conclusions is to define possible non-linear solutions to the nuclear proliferation from sub-state actors problem, this is a unique approach since in the West we generally see problems as linear in nature and thus the solutions will be linear also. This in fact is not the case for most of the interactions in nature, the universe, and everything. In fact attempting to mold a linear solution to a non-linear problem may actually cause the situation to get worse.

We show that the proper applications of non-linear thought and Chaos Theory, can provide much more accurate and effective solutions to the very complex and non-linear problems created by the spreading of nuclear materials (both supply and demand), the current Russian disintegration, and the inadequate U.S. policies designed to address these threats.

### 1. Definition of Terms

Linear - Involves measurement in one direction only. In mathematics it will involve terms of the first degree. It will have the same effect on a sum as on each side or part of an equation. Small deviations initially will not cause large deviations, but rather very predictable deviations in the solutions.[218] For instance, ballistics . . . artillery projectiles' flight paths can be easily forecasted. Changes in projectile weights, powder charges, and surface winds will produce predictable and accurate results. They can be captured by a straight line and are easily solved.

Non-Linear - Is much more difficult, esoteric, and obtuse. Expressed relationships are not strictly proportional. Generally non-linear systems and equations cannot be solved. In environments or systems, like social interaction, international relations, fluids, and mechanical, the non-linear terms are the features that people want to leave out so as to achieve a simple understanding.[219]

Without friction one has a simple linear equation that expresses the amount of energy needed to accelerate a jet off an aircraft carrier. With friction the equation becomes complicated, because the amount of energy changes depending on how fast the jet is moving at a given point in time. You cannot assign a constance importance to friction because its importance depends on velocity. Small variations in turn will cause significant, non-linear deviations in time. This is known as Sensitive Dependence Upon Initial

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[218] Webster's College Dictionary (New York, Random House, 1991).

[219] James Gleick, Chaos (New York, Penguin Books, 1987), 20-37.

Conditions,[220] or more commonly called "The Butterfly Effect." The idea of a small butterfly fluttering its wings in China, could eventually cause tornadoes in Kansas.[221]

The real world is full of and only operates because of these sensitive dependencies, to factor them out because they are too difficult to manage easily results in inadequate answers or programs for very serious threats. These conclusions will provide a frame work to address these inadequacies and guidelines to, if not solve, at least contain these new and greater nuclear proliferation threats.

### 2. Carl von Clausewitz on Chess

In the West over the last few centuries, we as a society, for the most part have addressed our problems in economics, physics, hunger, poverty, military strategy, and other realms in linear terms. More simply it can be viewed the way we observe Carl Von Clausewitz's On War, and with the medieval game of Chess. Clausewitz viewed warfare scientifically, one could simplify functions, hold inputs constant, take into account and measure unknowns such as "The friction of War." By doing so one could accurately determine or model outcomes in war or battle.[222] The reason for this again is that we can only solve for artificial linear equations and not real world non-linear equations.

This mind set produced the game of Chess in the West. In the game, one player moves their pieces across a one dimensional board attempting to corner or trap an opponent in checkmate, a position from which he cannot move one dimensionally from. This is also the way we attempt to solve most of the worlds' situations.

An example of this linear mind set is the United States War on Drugs. We spent billions of dollars and provided national assets (ships, planes, and military personnel), to stop the influx of illegal narcotics into America. This is the largest force ever assembled to fight a specific criminal threat, but since we did not target "critical nodes" of the drug operations, we lost. The smugglers simply avoided the billions of dollars worth of assets placed in their way and thus were never checkmated.

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[220] Ibid., 22-24.

[221] Ibid., 23.

[222] Carl Von Clausewitz, On War (New York, Penguin Books, originally published 1832 by Vom Krieg), 162-167.

### 3. Sun Tzu and the Art of Go

Sun Tzu and the Chinese board game of Go represent non-linear thought and strategy at its greatest. It is flexibility and movement that matter. It is not one dimensional or linear. There is no front and back, defense can and is offense at the same time. Sun Tzu said "all warfare is based upon deception," the U.S. war on drugs had only predictability. To achieve deception one must identify the opponents important "nodes" of operation. Sun Tzu called this attacking the enemy's strategy.[223] In Go a board of 19 squares by 19 squares is used, moves can be made anywhere on the board in any order, unlike chess where moves follow a pattern. Different parts of the board will be important and insignificant from game to game, just as different world threats will have different critical nodes. No one linear answer then can address all or even a few of the potential crises'.

What Sun Tzu and Go give to the drug war are nodes to focus the war upon. A major problem the drug cartels had was the movement of billions of dollars in cash, and the eventual laundering of these funds. This was not targeted but should have been. Banks in Europe, the Middle East, and the Caribbean should have been made to cooperate immediately and the accounts identified and seized. The chemicals, like ether, that is needed for processing could only be manufactured in the required quantities in Europe and the United States. Deny access to these chemicals. The aircraft used to move these materials were manufactured in the United States. The modifications added to give these planes the range to smuggle drugs had to be inspected by the Federal Aviation Administration (FAA), which means this node could also be targeted. These are just a few critical nodes that could have been easily targeted but were not.

The smugglers on the other hand targeted the U.S. strategy. They bought patrol and flight schedules to avoid areas of surveillance. They flew around radar stations, and paid off law enforcement officials.[224] They simply did not fight a campaign that complimented our strategy, and as a result have been highly effective. The nonproliferation regime must not also make this mistake.

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[223] Sun Tzu, The Art of War (London, Oxford University Press, 1963), 76-89. Translated by Samuel B. Griffith.

The solutions discussed in Chapter V, were as we see now somewhat linear in nature. They have difficulty addressing the chaotic nature of the international arena, regional security issues, and the mess created by the collapse of the Soviet Union. With the collapse of the USSR, a whole host of new and greater threats are now available internationally. Each one of the following, nuclear materials, nuclear technologies, nuclear weapons, nuclear experts, and the brain drain, all contribute more uncertainty, friction, and noise to the proliferation problem. This in light of the fact that all the other reasons or proliferation threats still exist.

Many of the critical nodes in Russia and the other inheritor states evolved out of the greater long-term problems stated in Chapter II. With the social, political, and economic collapse the only real long-term solution is to fix the internal society and get Russia functioning again.

After World War II, the United States saw the critical threat communism, as a philosophy, held towards a war ravaged Western Europe. The United States and Europe recognized that they could not rebuild on their own and that assistance would be required.[225] As an answer, the Marshall Plan was passed. It directed that Europe works together to rebuild, provided hundreds of millions of dollars in aid from the United States, and was designed to allow each country to rebuild her economy from the inside out. Russia's situation is not so different today, they must now rebuild a viable internal economy. What is different is the U.S. solution towards assistance. The CTR and programs such as defense conversions do not give much assistance. Funds it does provide are spent on limited programs making hearing aides, dental chairs, and cola.

These endeavors may not be enough to move markets, create jobs or support an entire economic infrastructure, but may offer a place to start. If the entire economy is not

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[224] Rice, Trafficking, 145-151.

[225] Henry Pelling, Modern Britain (New York, W.W. Norton & Company, Inc., 1960), 163-190.

supported and working then neither will the social and political sections be supported and working. The United States could aid the Russian government in areas of government and security; police forces, borders, and anti-organized crime. This is, however, an internal problem that may require internal answers. One probable long-term solution is to let U.S. and international business interests assist in solving the economic woes through joint business ventures. The following trade agreement is a positive example of what could be done.

### 4. One Billion Dollars for Sixteen Satellite Launches

Lockheed-Martin will be paying one billion dollars to the Russian Space program for sixteen satellite launches over the next two years. They are investing an additional $25 million on infrastructure upgrades to facilitate these launches.[226] This is ten times the amount that the U.S. government has spent on CTR (Nunn-Lugar) in the last three years. Lockheed-Martin is also getting a deal because to launch those satellites from the United States, it would cost two billion dollars. These are the types of programs that the United States must facilitate and push for because this is what the economy needs and will respond to.

Russia possesses several internal industries that can and do support entire world-wide industries. They have some of the largest oil, natural gas, precious metals, and old growth timber reserves in the world. Any one of these industries, if properly developed, could immediately infuse hundreds of billions of dollars in hard currencies into the Russian economy. This is exactly what Russia needs if it is to continue towards a healthy political and economic recovery. Boeing Aircraft is looking into joint ventures with Russia using the trade agreement in appendix E as a basis. The U.S. government could assist in future agreements such as the example outlined above. Giving financial assistance may be necessary but only offers a short term answer. Lockheed-Martin's satellite venture is an example of a long-term economic solution that benefits both Russian and U.S. economies and improves international stability.

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[226] Los Angeles Times, 21 March 1995.

## 5. Concluding Recommendations

### *a. Short-Term Recommendations*

- Current programs such as CTR, Laboratory-to-Laboratory, and Government-to-Government should be continued and supported into the near future. They may provide the short-term stability necessary to increase U.S. and Russian cooperation.

- Enforcement of the current nonproliferation regime should continue to be pursued by the international community. While imperfect in the past it provides vital deterrents and hurdles against those seeking nuclear weapons status.

- The criminal and corrupt elements within the NIS must be adequately combated, the United States and others in the international community can lend technical and training assistance when and where ever practical. But this will only be successful if those in this region take an active role in combating these elements and applies an effective rule of law.

### *b. Long-Term Recommendations*

- Most importantly, an internal Russian consensus towards international co-operation must become evident.

- The fractious political leadership must develop a working level of co-operation between themselves. They must be able to put together a vision for the future that will morally, spiritually, socially and functionally replace the lost leadership and guidance that was provided by the communists.

- What we called the Marshall Plan following World War II could be applied in the NIS today. It should be noted that annual assistance programs to Egypt and Israeli average about four to six billion. This is over ten times the annual level of funding authorized for CTR programs. Due to the potential devastating nuclear proliferation problem outlined throughout this thesis, U.S. policy and assistance programs may need to be re-evaluated to ensure the greatest stability for each dollar spent. This is critical in today's limited budget environment.

- Russia and the NIS possess large quantities of extremely valuable natural resources. Economically speaking these resource industries must be put to work. These are industries that could support the economic turn-around that is presently needed to assist solving many of the system wide problems.

- The United States should facilitate international trade, agreements, and joint ventures that will also assist in getting Russia and the NIS functioning adequately. The Lockheed-Martin example above infused in one transaction ten more hard currency into Russia than all the CTR programs combined. These are the programs that will produce growth over decades.

- Ultimately these are local problems that will require local solutions that must be developed and instituted from within Russia and the various NIS. If they do not take the initiative and forge forward, nothing the United States and the international community does or proposes will succeed in the long-term.

# APPENDIX A.

## ILLICIT TRANSACTIONS INVOLVING NUCLEAR MATERIALS FROM THE FSU

This Appendix contains a compilation of reported illegal nuclear materials diversions for the past four years. The list is not inclusive but will provide ample documentation of the new nuclear proliferation threat that is the basis for this thesis. This list was compiled by the ***CIS Nonproliferation Project***, located at the Monterey Institute for International Studies (MIIS), Monterey, California. No attempt has been made to ascertian the veracity of these reports.

May 15, 1995

# ILLICIT TRANSACTIONS INVOLVING NUCLEAR MATERIALS FROM THE FORMER SOVIET UNION A CHRONOLOGY OF NEWS REPORTS

Compiled by the CIS Nonproliferation Project.
(No attempt has been made to determine
the veracity of the reports.)

5/10/95 - REUTER, "Plutonium smuggling trial opens in Germany," by Jan Schwartz.

The German trial of three men accused of smuggling Russian plutonium into Germany in August 1994 at the Munich airport began today. The three men, one Colombian and two Spaniards, are Justiniano Torres Benitez, Julio Oroz Eguia, and Javier Bengoechea Arratibel.

On April 25, 1995, the Russian security service released a report that stated that supervision at Russia's nuclear facilities is "inadequate." The document also states, "The security of weapons production and storage has become more lax, as have border and customs checks...All this is leading to increased weapons theft and dealing."

5/10/95 - FBIS-SOV, "Police Seize Five Kilograms Uranium in Haapsalu," originally from Radio Tallinn Network, 5/10/95, in Estonian.

The press service of the Estonian Ministry of Internal Affairs announced that Estonian police arrested two men, named Toomas Maripuu and Tarmo Poks, who attempted to sell five kilograms of uranium-238 to an undercover policeman for 500,000 kroons ($45,000). The uranium is believed to have come from Russia, although the origin remains uncertain. [See also Saulius Girnius, "Estonian Police Foil Sale of Uranium," OMRI DAILY DIGEST, 5/11/95.]

5/2/95 - OMRI DAILY DIGEST, "Radioactive Material Found At Baku Airport," by Liz Fuller.

An unclaimed container that had been sent from Amsterdam in 1993 was discovered in the Baku airport. The container held 763 kilograms of caesium-137, americium-241, and beryllium.

May/June 1995 - BULLETIN OF THE ATOMIC SCIENTISTS, "'Potatoes were guarded better'," pp. 46-50, by Oleg Bukharin and William Potter.

According to this article, little attention has been paid to the proliferation threat of naval fuel in the former Soviet Union. Some naval fuel is enriched up to 90 percent uranium-235. The theft of part of three submarine fuel assemblies from the Sevmorput shipyard near Murmansk on November 27, 1993, exemplifies how easily thieves can steal naval fuel. Naval facilities are often poorly guarded and have minimal physical protection. At Sevmorput, the fences had holes in them and the alarm connecting the guard post to the storage building was broken. The theft at Sevmorput also illustrates the need to guard against diversions by facility personnel. One of the thieves was Dmitry Tikhomirov, the chief of the refueling division at Sevmorput.

The article also reported that in 1992, several fuel assemblies were stolen from the Zapadnaya Litsa storage facility.

May/June 1995 - BULLETIN OF THE ATOMIC SCIENTISTS, "Which *Fissile*

Fingerprint?" pp. 10-11, by Mark Hibbs.

Investigators looking into the smuggling incidents in Germany and the Czech Republic have been unable to discover the "fingerprint" that indicates the origin of the fissile materials. However, many theories exist to explain the origins of the smuggled uranium and plutonium. Officials from the U.S. Department of Energy have stated that the plutonium seized in May in Germany was part of a "standards sample" that had been purified in a laboratory and then distributed to labs throughout the Soviet Union. Initially, German authorities reportedly believed that the plutonium originated from a weapons source. At present, Germany's criminal justice investigation service is unsure of the origin of the plutonium.

The source of the highly-enriched uranium seized in Prague in December 1994 is also unknown. Czech officials have stated that the uranium had been irradiated in a reactor, reprocessed, and then re-enriched. Some European and U.S. scientists believe that the uranium could be a "cocktail" of uranium from many sources. Other U.S. and European scientists theorize that the uranium is reprocessed low-enriched uranium from spent RBMK fuel.

Czech investigators have traced the containers that held the uranium to a Black Sea Fleet storage facility near Odessa. According to Czech police, the smugglers have connections to Russia's Northern Fleet and divert nuclear submarine and icebreaker fuel to Ukraine and then attempt to sell it abroad.

4/95 - IZVESTIYA, "V litovskii seim - s kontrabandnym uranom", p. 3.

One kilogram of uranium was pawned by a Russian citizen to a citizen of Kaunas (Lithuania) for $7,000. When the new owner of the uranium understood that he would not get his money back, he decided to turn over the uranium to the Lithuanian parliament for a reward.

4/29/95 - IZVESTIYA, "Traces of Nuclear Loss Found in Vilnius?" p. 3, by Nikolay Lashkevich.

A nuclear fuel container containing a uranium mixture was found in a suburb of Vilnius. Lithuanian physics experts have confirmed that the container originated from the Ignalina nuclear power plant.

4/28/95 - SEGODNYA, "Radioactive Waste Containers Discovered in Baku," p. 7, by Arif Useynov.

The Azerbaijan Transport Prosecutor's Office discovered two containers holding radioactive waste in Baku's Bina Airport. The containers were delivered by a French company through Amsterdam and by the U.S. company Ponder International Service. The containers were thought to carry ordinary chemicals, and not radioactive waste. The French container, which weighed 763 kilograms, held a cesium-137 gamma radiation source, two americium-241 neutron sources, and beryllium.

4/27/95 - NUCLEONICS WEEK, "Schmidbauer Denies Any Wrongdoing In Advance of Plutonium Inquiry," pp. 4-5, by Mark Hibbs.

Bernd Schmidbauer, the intelligence coordinator for Chancellor Helmut Kohl, stated that he learned of the plutonium seizure at the Munich airport the following day and that German intelligence planned the plutonium seizure because plutonium was already in Germany.

Schmidbauer dismissed Russian claims that the plutonium originated in Germany and not in Russia.

4/27/95 - NUCLEONICS WEEK, "Opposition Asserts Pu Sting Got Out Of Control; Schmidbauer Lied," pp. 5-6, by Mark Hibbs.

According to Norbert Gansel, SPD foreign policy spokesman and a member of the German Parliamentary Control Commission, Bernd Schmidbauer lied about the events before and after the seizure of plutonium at the Munich airport in August 1994. Peter Struck, a member of the Bundestag's intelligence oversight committee, stated that the plutonium operation illustrated that there are few controls over German intelligence operations. Struck stated that German intelligence "had run an operation which had gotten out of control."

Although Bavarian Interior Minister Guenther Beckstein denied knowledge of the sting operation in 1994, on April 21, 1995, chief prosecutor Dieter Emrich stated that Bavarian authorities had known about the operation in advance.

4/26/95 - REUTER, "German parliament launches plutonium scandal probe."

The German parliament decided to initiate an inquiry into nuclear smuggling from the former Soviet Union due to accusations that German intelligence planned the plutonium seizure at the Munich airport.

According to Bavarian Interior Minister Guenther Beckstein, Bavarian officials did not warn Russia of the plutonium shipment because of concerns that Russian security officials could have ties with the mafia and could not be relied upon. [See also THE ECONOMIST, 4/29/95, pp. 59-60, "Back from Hades."]

4/24/95 - NUCLEAR FUEL, "Schmidbauer, Agencies To Be Probed On Bonn Plutonium Sting Operations," pp. 2-3, by Mark Hibbs.

Last week German intelligence's oversight committee, the Parliamentary Control Commission (PKK), initiated an investigation into the role of the Bundesnachrichtendienst (BND) and its coordinator Bernd Schmidbauer in the seizure of plutonium at the Munich airport in August 1994. Following the initial closed session, Peter Struck, a member of the PKK, stated that evidence indicates that German authorities created the demand for the plutonium when no market existed.

4/24/95 - DER SPIEGEL, "Arrows Against Russia," p. 32.

According to Minatom Deputy Minister Yevgeniy Mikerin, based on studies by Minatom and Russia's security services, no Russian plutonium is missing. Mikerin also denied reports that the plutonium seized in Munich is from Russia.

4/24/95 - REUTER, "Experts say Slovak uranium-238 haul not bomb-grade," by Chris Sulavik.

An IAEA spokesman stated that the 17.5 kg (38.5 pounds) of material seized in Slovakia was not weapons-grade and could not be used in a nuclear bomb. According to Slovak police, the seized material is uranium-238. Ivan Simovcek, a senior Slovak police officer, stated that Slovak officials cannot say what the enrichment level of the uranium is at this time. [See also Prague Radiozurnal Radio Network, 4/24/95; from FBIS-SOV, 4/24/95, "Experts Continue Assessment of Seized Uranium," and Sharon Fisher, "Nuclear Material Seized In Eastern Slovakia," OMRI DAILY REPORT, 4/24/95.]

4/23/95 - REUTER, "Germany staged plutonium scare, insists Russia," by Fiona Fleck.

Minatom alleged that German intelligence services (BND) staged the Munich airport smuggling incident last August. Minatom spokesman Georgy Kaurov stated that Germany planted the plutonium in order to make Russian safeguards appear lax. Kaurov stated, "Weapons-grade plutonium is kept locked safely away, it does not just disappear from Russia."

Russian officials began criticizing Germany after Munich state prosecutors admitted that they had known smugglers were going to transport plutonium to Germany by plane, and did nothing about it.

4/22/95 - NEW YORK TIMES, "Radioactive Material Seized In Slovakia; 9 Under Arrest," by Jane Perlez.

Slovakian Interior Ministry spokesman Peter Ondera stated that on

April 13, Slovakian police seized 37.4 pounds of what is believed to be uranium from a car with Hungarian license plates near the town of Poprad. Ondera also stated, "There are no doubts this is nuclear material, and so far we're sure its uranium, but we just don't know what kind." Slovakian authorities are awaiting laboratory analysis of the material to determine that it is uranium and whether it is enriched. According to Ondera, nine people were arrested, including four Slovaks, three Hungarians, and two Ukrainians. [Christine Spolar, "Slovakia Holds 9 in Uranium Plot," WASHINGTON POST, 4/22/95, p. A25.]

4/22/95 - ROSSIYSKAYA GAZETA, "Nuclear Spetsnaz. Special Subunit To Combat Nuclear Terrorism Set Up in Closed City of Ozersk, Former Chelyabinsk-65," p. 4, by Andrey Lvov.

Spetsnaz officers will guard the Mayak Chemical Combine located at Chelyabinsk-65.

Reports from Arzamas-16 stated that in the past year, the number of illegal attempts to enter the federally closed zone around Arzamas-16 doubled. However, according to the leadership at Arzamas-16, the center's three tier security system that meets IAEA requirements protects the materials within the center.

4/21/95 - RABOCHAYA TRIBUNA, "The Nuclear Society Warns. Radioactive Materials Will Not Spread Across the Planet If Experts of All Countries Act Together," p. 3, by Nataliya Korkonosenko.

According to Andrey Gagarinskiy, external relations director of the Kurchatov Institute, Russian specialists have been unable to analyze the fissile materials seized in Europe and, therefore, do not have the information necessary to locate the origin of the materials. Gagarinskiy stated that "there are no grounds to agree or disagree with Western experts' conclusions on the leakage of nuclear materials from our institute.

Gagarinskiy also stated that the Kurchatov Institute is protected by four levels of security and that it is developing a new nuclear materials accounting and monitoring system that is in accordance with international regulations.

According to Gagarinskiy, over the last two years there have been 18 recorded cases of stolen uranium, including highly-enriched uranium-235.

4/20/95 - VEK, "FSB RF preduprezhdayet", p. 13.

The Russian Federal Security Service stated that since the second half of 1991 a number of attempts to illegally sell non-weapon grade nuclear material have been discovered. 19 Russian citizens have been convicted for the theft of radioactive materials. The FSS also mentioned that the mass-media and a low standard of living are the main reasons for such crimes.

4/20/95 - VEK, "Prizrak "atomnoy mafii" kak sredstvo bor'by s konkurentami", p. 13.

Vladimir Bogdanov, the head of the Main Department for Information, and Protection of Nuclear Materials and Facilities of Minatom of Russia stated that there have not been any attempts to steal weapon-grade nuclear materials in Russia. Two thefts of low-enriched uranium were discovered in the 1970s, and in 1993 there were three events in Electrostal, Glasov, and Lipetsk. However, all the crimes were discovered and no seller was able to find a buyer for the radioactive material. Bogdanov also mentioned that the plutonium and uranium which were found last year in Germany had not been produced in Russia. He added that the interest in nuclear materials has been stimulated by the mass-media.

4/19/95 - REUTER, "Germany denies it staged Russian plutonium sale," by Fiona Fleck.

German government spokesman Herbert Schmuelling denied Minatom spokesman Georgy Kaurov's claims that the plutonium seized in Munich in August 1994 originated in Germany and not Russia, and that German intelligence planned the smuggling incident. Schmuelling stated, "It is absurd to say the material was transported from Munich to Moscow and from Moscow back to Munich again."

Wilhelm Gmelin, the head of Euratom, stated that analysis of the plutonium showed that it had originated in the former Soviet Union. Gmelin also stated that the Lithium-6 discovered with the plutonium cannot be found in Germany.

4/19/95 - FBIS-SOV, "Tube Containing Radioactive Uranium Found in Vilnius;" originally from Vilnius Radio, 4/19/95, in English.

A lead tube containing 357 grams of uranium was discovered in a residential area of Vilnius. According to Lithuanian television reports, police believe that the uranium may be from the container of uranium that has been missing from the Ignalina nuclear power plant since 1993.

4/14/95 - FBIS-SOV, "Radioactive Cesium Uncovered in Mari El."

On April 9, 1995, a Vesti broadcast reported that Russian counterintelligence discovered two containers of cesium-137 in Yoshkar-Ola, which were to be smuggled into the Baltic states by four men.

4/13/95 - IZVESTIYA, "Uranovoie delo" v Sochi zakonchilos' pobegom obvinyaemogo", p. 8.

A Sochi Court sentenced a 35-year old unemployed citizen for an attempt to sell 3 kg of low-enriched uranium for $30,000 per kilogram. According to experts, the nuclear material was stolen from one of the Ural nuclear enterprises in 1991 and since that time has been passed from one man to another as collateral for debt. The individuals involved in these machinations have been declared "wanted" by the Sochi Court.

4/13/95 - KOMSOMOLSKAYA PRAVDA, "German Special Services 'Glow' from Plutonium, p. 1, by A. Baranov, R. Zaripov, and V. Prokopenko.

A DER SPIEGEL article states that Germany's intelligence service planned and carried out the smuggling operation that resulted in the plutonium seizure at the Munich airport in August 1994. Georgiy Kaurov, the head of Minatom's press center, said the article confirmed a Minatom statement that Germany was the origin of the seized plutonium. Kaurov stated that at the time of the seizure, Russia said that the plutonium had originated in Germany, had been placed aboard the flight to Moscow, and then returned to Munich, where the German police were waiting for it. [See also SEGODNYA, "Skandal vokrug "kontrabandy plutoniya" prodolzhaetsya", 4/22/95, p. 4; VEK, "Komu nuzhny "yadernie skandaly"?", 4/20/95, p. 13; NEZAVISIMAYA GAZETA, "Delo o yadernoi kontrabande", 4/13/95, p. 2.]

4/11/95 - FBIS-SOV, "No 'Russian Connection' With Plutonium Seized in Munich," originally in Itar-Tass, 4/11/95, by Olga Semenova.

Major-General Aleksandr Mikhaylov, chief of the public relations center of the Russian Federal Counterintelligence Service, stated that there was no "Russian connection" to the seizure of plutonium-239 at the Munich airport in August 1994. Mikhaylov stated that there was no proof that the plutonium came from Russia. Mikhaylov did admit that there are problems with guarding nuclear facilities and that this problem is being worked on.

4/10/95 - Der Spiegel, "Panik Made In Pullach."

On 4/10/95, the German news magazine Der Spiegel reported on the German Federal Intelligence Service's (BND) operation "Hades". In this operation the Columbian Justiniano Torres Benitez and the Spaniard Julio Oroz Eguia were reportedly coerced by the BND into smuggling 363.4 g of weapons-grade plutonium and 201 g of lithium 6 from the former Soviet Union to Munich, Germany.

4/9/95 - REUTER, "Bonn denies it staged atom incident, Moscow upset," by Michael Shields.

In response to a recent DER SPIEGEL article, Germany's BND intelligence service denied that it initiated the deal that resulted in the seizure of 363 grams (12.8 ounces) of weapons-grade plutonium from a Moscow flight in August 1994. The article stated that the BND planned the deal, called Operation Hades, in an attempt to demonstrate the danger of plutonium smuggling and to justify the agency's existence.

Yevgeni Mikerin of Minatom stated that Germany stole and dispersed radioactive material as "a provocation against Russia."

4/7/95 - WALL STREET JOURNAL, "Russia's Secret Police. . ." p. A1.

On 4/5/95, President Yeltsin signed a law granting Russia's secret police expanded powers to combat organized crime, smuggling, and armed gangs.

4/6/95 - NUCLEONICS WEEK, "Two Uranium Smugglers Arrested In Ukraine, Spotlighting Problem," pp. 14-15, by Peter Coryn.

An investigation into the seizure of enriched uranium in March, which was being smuggled by two former Russian soldiers, has not revealed the origins of the uranium or where it was to be sold. The two former soldiers stated that they had expected to sell the uranium for more than $1 million. The Institute of Nuclear Research at the Ukraine Academy of Sciences has also been unable to determine the uranium's origins.

In January, Ukrainian officials arrested three people who were attempting to sell a testing instrument that contained about 6 kg of uranium.

4/5/95 - TRUD, "Tol'ko versii", p. 1.

After an almost half-year investigation into the murder of young journalist Dmitry Kholodov, a special group of detectives still has not found a murderer. Investigators are now looking into new variants. According one investigator, a "nuclear mafia" could have been responsible for the crime. It has been found that Dmitry Kholodov, who had a degree in physics, was going to devote his next articles to the subject of nuclear materials thefts. Just before his death, he had been collecting information about the involvement of Russian government officials in a "nuclear mafia."

4/5/95 - SEGODNYA, "Press-reliz Tsentra obschestvennykh svyazei FSK Rossii o deyatel'nosti FSK v 1994 godu", p. 7.

The Public Relations Department of the Russian Federal Security Service (FSK) has published their 1994 annual report. In addition to other information, the FSK stated that it has prevented 60 extreme incidents at nuclear enterprises and the sale of 57 kg of uranium-238 in the Pskov region.

3/30/95 - NUCLEONICS WEEK, "Germany Won't Answer Questions On Smuggling Probe, Minatom Says," pp. 13-14, by Mark Hibbs.

Russian officials have stated that Germany has not provided any answers in its investigation of the seizure of plutonium at the Munich Airport in August 1994. Minatom spokesman Georgi Kaurov stated that Russia would like to know why Minatom Vice Minister Viktor Siderenko was not interviewed following the seizure of the plutonium. Siderenko was a passenger on the plane, and unlike the other passengers, was not interviewed by German authorities. Minatom seeks to dispel allegations that Siderenko knew about the plutonium in advance.

Kaurov also stated that Germany has not provided Russia with any plutonium from the Tengen seizure so that Russia can make an independent analysis.

German officials rejected Russian allegations that German authorities were behind the shipment of plutonium by placing it on a German flight to Moscow so that it would return to Germany.

Czech investigators have stated that the HEU seized in December was traced back to a storage facility in Odessa for the Soviet Black Sea Fleet.

3/30/95 - NUCLEONICS WEEK, "Russia Improving Protection For Sensitive Nuclear Sites," pp. 12-13, by Mark Hibbs.

Russia has started improving the physical protection of its nuclear facilities with the assistance of the United States. In December 1994, the Kurchatov Institute launched a pilot program to improve the physical protection of the facility as well as the MC&A procedures.

According to Anatoli Abramov, a Minatom official, there were about 20 confirmed thefts and attempted thefts of nuclear material between 1992 and 1994. Abramov stated that in October 1992, that "a few kilograms" of uranium were stolen from the Chepetsk uranium processing plant by four employees. Minatom spokesman Georgy Kaurov stated that one employee of the former Soviet Navy was "convicted and punished" for stealing spent propulsion fuel.

An anonymous Minatom official stated that an employee of the Podolsk fuel processing plant stole "kilogram amounts" of HEU over a long period of time by stealing small quantities at a time.

3/27/95 - NUCLEAR FUEL, "Europeans Term 'Worthless' Minatom Claim That No HEU Or Pu Is Missing," pp. 12-13, by Mark Hibbs.

European safeguards and physical protection officials rejected Russian statements that following a complete inventory of Russia's stockpiles of fissile materials, no material was missing. Georgy Kaurov, a Minatom spokesperson, stated that the material unaccounted for at Minatom production facilities "is not in the realm of tons or kilograms, but grams. You might not agree with this, but it is a fact."

However, Minatom officials stated in 1992 that the material unaccounted for at the RT-1 plutonium separation plant at Chelyabinsk was of many significant quantities. The IAEA defines significant quantities as 8 kg of plutonium.

Anatoli Abramov, a Minatom official, stated that following the analysis of the plutonium seized in Germany in 1994, it was determined that the material could only have originated from a plutonium facility at Tokai Mura in Japan or the Siemens mixed-oxide fuel plant in Germany. According to Abramov, the plutonium could not have originated in Russia.

Abramov also stated that the Los Alamos National Laboratory had analyzed the plutonium and determined that it had not originated in Russia.

3/24/95 - KOMMERSANT-DAILY, "Prestupniki khranili metall v steklyannikh bankakh", p. 14, in Russian.

Two traders in radioactive materials were arrested by police in Kiev, Ukraine. Two former Russian officers purchased 6 kilograms of uranium in Russia and transported it to Ukraine with the intention of reselling the material across the border. According to an investigation the smuggled material is naval reactor fuel consisting of highly enriched uranium. [See also KOMSOMOL'SKAYA PRAVDA, "Na Kievskikh prilavkakh poyavilsya svezhii uran", 4/4/95, p. 1.]

3/23/95 - REUTER, "Ukraine holds ex-soldiers with uranium."

Colonel Mykhailo Sadovyi of Ukraine's Interior Ministry stated that the recent seizure of 6 kg of uranium pellets in three glass jars in Kiev is the second such seizure in 1995 in Ukraine. Mykhailo stated that in January, Ukrainian officials arrested three people who were attempting to sell weapons-grade uranium-235 and uranium-238.

3/23/95 - FBIS-SOV, "FIS Official Denies Uranium Leaks From Russia," originally from the Mayak Radio Network, 3/23/95.

According to General Colonel Vyacheslav Trubnikov, first deputy director of the FIS, the FIS has no knowledge pertaining to "real cases" of smuggled weapons-grade uranium from the FSU. Trubnikov stated that Russia's foreign partners have also been unable to confirm such cases.

3/23/95 - FBIS-SOV, "Russian Ex-Servicemen Arrested With 6 kg of Uranium," originally in Itar-Tass, 3/23/95, Viktor Demidenko and Mikhail Melnik.

The three half liter jars containing uranium-235 and uranium-238 seized in Kiev by members of the organized crime department also contained small amounts of radium and palladium. Ukrainian authorities arrested two former Russian military servicemen, who entered Ukraine from Russia in order to sell the uranium to middlemen for export abroad. [See also KOMSOMOLSKAYA PRAVDA, "Fresh Uranium Has Appeared in Kiev," 4/4/95, p. 1, by Olga Musafirova.]

3/22/95 - ASSOCIATED PRESS, "Ukraine-Uranium."

Ukrainian Interior Ministry spokesman Alexander Zarubitsky announced the arrest of two former Russian soldiers and the seizure of 13 pounds (6 kg) of uranium-235 granules hidden in their apartment. According to Zarubitsky, the uranium was not weapons-grade and could not be used to build bombs. The uranium, found in three glass jars with plastic covers, could only be used in nuclear power and nuclear submarine reactors. The enrichment level of the uranium was unknown. One of the suspects told police that they obtained the uranium in Russia and transported it to Ukraine to sell abroad. [See also UNITED PRESS INTERNATIONAL, 3/23/95, "Ukraine holds ex-soldiers with uranium."]

According to unofficial reports by senior Ukrainian officials, the uranium was enriched to 20 percent U-235. An analysis of the material was performed by the Kiev Nuclear Research Institute.

3/17/95 - Rabochaya Tribuna, "Karavan veset uran", p. 1, 2, in Russian.

A Commission on Security of the German Bundestag prepared a special report on the basis of intelligence service data. This report is about nuclear material leakage in the world. According to the report, 52 thefts of radioactive material were recorded in 1992, 124 cases took place in 1994. According to Der Spiegal, former Soviet military personnel, ex-KGB collaborators, and corrupt officers of the Northern Fleet have dealt in radioactive materials smuggling. They have created several ways to sell nuclear materials to the West: weapon grade materials are transferred through Ukraine, Azerbaijan and on through the Bosphorus. Turkey is a major transit country for smuggled materials bound for Western Europe. Another smuggling route is through the Czech Republic. According to German specialists, nuclear smuggling will not end in the next three years. What is more, a specialized international mafia is developing now and Russian nuclear traders are active participants in the process.

3/11/95 - ROSSIISKAYA GAZETA, "Tsezievi ozhog", p.3, in Russian.

Two gamma radiation sources were stolen from the state enterprise "Korund" in city of Dzerzhinsk (Nizhni Novgorod region). The level of radioactivity was high enough to pose a threat to a human life. The crime was solved by a group of Federal Intelligence Service agents in a very short time. The first source was found in a "Korund" dumping ground, the second one - at an apartment building in an electricity meter. An ordinary electrician had taken the two sources of gamma radiation from the enterprise after a quarrel with his wife; besides that he was drunk. During the investigation the criminal explained that he wanted to sell the radioactive material because according to the mass-media it is a very profitable item to sell. [See also NIZHEGORODSKIE VEDOMOSTI, "S radiatciei shutki plokhi", 3/3/95, p. 2.]

3/2/95 - YANTARNYY KRAY, "'Trader of Radiation' Has Been Arrested," p. 1, in Russian.

Anti-organized crime officials arrested a former senior Army officer in the town of Chernyakhovsk for attempting to sell a container filled with radioactive material. A preliminary investigation showed that the glass capsule, held within an aluminum container, contained strontium-90 and yttrium-90 [sic]. According to experts, these two substances can be used in the air and space industry. Radiation levels surrounding the container measured 10-16 micro-Roentgen per hour, and increased to 545 milli-Roentgen once the containers were opened.

3/95 - YADERNII KONTROL, Information section, p. 5.

Personnel at the nuclear enterprises in Chelyabinsk have taken special measures to enhance the physical protection and nuclear safety in connection with a threat of terrorism by Chechen fighters.

2/24/95 - OMRI DAILY DIGEST, No. 40, part 1, "Chernomyrdin Orders Tighter Nuclear Security," by Doug Clarke.

Viktor Chernomyrdin ordered that security at Russia's nuclear facilities be increased in order to prevent the theft of radioactive materials even though Viktor Yerin, the Minister of the Interior, stated that no weapons-grade nuclear material is missing from Russian facilities.

2/24/95 - WASHINGTON POST, "Russia Orders Tightened Security to Protect Nuclear Materials," p. A15, by Margaret Shapiro.

Russian Interior Minister Viktor Yerin stated that his ministry is investigating 30 cases of nuclear material smuggling from Russian nuclear facilities.

Prime Minister Viktor Chernomyrdin ordered tighter security at Russian nuclear facilities following a report by Yerin which stated that 80 percent of Russia's nuclear facilities lacked equipment for detecting radioactive materials at their gates.

2/20/95 - DER SPIEGEL, "Nuclear Smuggling -- Quantum Leap With Consequences," p. 16.

In 1992, there were 53 reported cases of nuclear smuggling, and in 1994 the number of cases increased to 124, five of which involved weapons-grade fissile materials. Former Russian army and KGB officers are reportedly involved in the smuggling of nuclear materials. Two transfer points for nuclear materials are Turkey and the Czech Republic.

2/18/95 - NEW YORK TIMES, "Smuggling of Radioactive Material Said to Double in a Year," p. A2.

According to a West European intelligence report, there were 124 cases of actual or attempted nuclear smuggling from former Communist countries in 1994. Seventy-seven of the 1994 cases involved uranium or plutonium. There were 56 cases reported to Western governments in 1993 and 53 in 1992. The report also stated that the Czech Republic is increasingly being used as an entry point into the West, with 12 cases in 1994 compared to none in 1993 and 10 in 1992.

2/17/95 - OMRI DAILY DIGEST, No. 35, Part 1, "Russian Investigator Says

Stealing Uranium Easier Than Taking A Sack Of Potatoes."

According to REUTER, a British Television program quoted Russian investigators as stating that a Navy lieutenant colonel's theft of uranium "was easier than taking a sack of potatoes." Lieutenant Colonel Aleksei Tikhomirov had entered the storage area in Severomorsk, forced the padlock on the door, and stole several canisters of fuel rods containing 20% uranium-235.

2/16/95 - NUCLEONICS WEEK, "Europe's HEU Finds May Be Stolen From A Single, Aging Stockpile," pp. 1-2.

According to NUCLEONICS WEEK, the HEU confiscated in Landshut, Germany in June 1994 and in Prague, Czech Republic in December 1994 may have originated from a single stockpile that had been produced over ten years ago. Germany's federal criminal investigative unit, Bundeskriminalamt (BKA), compiled a report that connected the suspects that had been arrested in both smuggling cases. The BKA discovered a connection between the Czech national arrested in the Czech case and the Polish national arrested in the Landshut case.

Spectrometric analysis by the IAEA has indicated that the isotopic spectrum in the material from both cases is almost the same, containing no U-232, about 88% U-235, slightly over 1% U-234, and about 0.2% U-236. The mass percentage of U-238 in both batches is slightly different. The small amounts of U-236 found in the confiscated materials indicates that the uranium had been recovered from spent fuel reprocessing and then re-enriched. Analysis of the material has not indicated by what process the uranium had been enriched or whether the material had been diverted from military sources. [See also Mark Hibbs, NUCLEAR FUEL, 2/13/95, pp. 8-10, "Smuggled Czech HEU Cache Described As 'Identical' To German Test Sample."]

2/15/95 - THE NEW YORK TIMES, "Tracing a Nuclear Risk: Stolen Enriched Uranium."

The 2.7 kg of 87.7 percent enriched uranium confiscated in Prague on December 14, reportedly originated from a storage site belonging to the Russian Navy or a fuel fabrication facility in the former Soviet Union. The three men driving the car carrying the uranium were nuclear workers from the Czech Republic, Belarus, and Ukraine. The Czech, Jaroslav Vagner, was a former nuclear worker from the Czech Republic who left his job due to the poor pay.

2/13/95 - NUCLEAR FUEL, "Some U.S. Officials Doubt Report Prague HEU Smuggle Find Is REPU," p. 10, by Mark Hibbs.

A number of U.S. officials contradicted European reports that the 2.7 kg of HEU confiscated in Prague in December was reprocessed uranium that had been re-enriched. The U.S. officials stated that the HEU was most likely produced from natural uranium (NATU) feedstock enriched by gaseous diffusion or a centrifuge.

2/14/95 -PRISIV, "Samoubitsi pokhischaut Cs-137", p. 1.

A gamma radiation source was stolen from one of the enterprises in the city of Kovrov. The radioactive level of the source was 250 times greater than allowable safety standards. The crime was carried out by three citizens of Kovrov, who intended to sell the source to a person from one of the CIS countries. The crime group was arrested in the city of Kameshkov (Vladimir region) on 2/10/95.

2/12/95 - WASHINGTON POST, "Russia Accused of Impeding Uranium-Smuggling Probe," p. A39, by John Pomfret.

Czech officials investigating the December 14, 1994 seizure of 87.7 percent enriched uranium-235 stated that they are experiencing problems because officials in Russia and Belarus are not cooperating with the investigation. The Czech Republic has requested background checks from Interpol on the arrested Russian and Belarusian, but neither Russia nor Belarus have responded. Although Russia has denied that the uranium originated in Russian and has accused the Czech Republic of supplying the uranium, an analysis by the IAEA showed that the material could not have been produced in either the Czech Republic or Slovakia.

2/95 - NUCLEAR NEWS, "Confiscated U May Be Part Of A Lost Fuel Assembly," p. 63.

In late December 1994, a sting operation conducted by Lithuanian police seized 8 kg of uranium dioxide pellets from a former Ignalina guard. The guard escaped following his capture and is still at large. The uranium dioxide may be from a missing fuel assembly from the Ignalina plant.

Early tests indicate that the uranium was enriched to about 2 percent, which is the enrichment level used in the fuel for the two RBMK reactors located at Ignalina. Accountancy checks in mid-1992 showed that a fuel assembly was missing. At present, most of the 280 kg of uranium from the fuel assembly is still missing.

2/95 - YADERNII KONTROL, "Goryachaya tema," p. 2-5.

Valerii Menschikov, member of the Security Council of the Russian Federation, took part in a special commission to the Siberian Chemical Combine. He noted that because of increasing interest in fissile materials by non-nuclear-weapon states and current political instability in Russia, personnel at nuclear facilities must be prepared for unusual situations, such as terrorist acts. However, Menschikov noted that an adequate system of physical protection was in place at the Siberian Chemical Combine.

2/95 - YADERNII KONTROL, "Iadernii terrorizm: problema, kotoraya skoro vstanet na povestke dnya," p. 6.

During the military conflict in Chechnya, Russian Prime Minister Victor Chernomyrdin asked Viktor Mikhailov, the Minister of Atomic Energy, for detailed information on radioactive waste on the Chechen territory and its possible use by Chechen terrorists. Mikhailov declared that there was no nuclear activity in Chechnya and consequently there was no radioactive danger to the Russian army from the Chechen side. Chernomyrdin's request was in response to statements by official Russian organizations that there was reason to believe that Chechen fighters had been stealing radioactive wastes from facilities around the former Soviet Union.

2/95 - YADERNII KONTROL, "Interv'yu mesyatsa," p. 9-11.

In an interview with YADERNII KONTROL', Victor Mikhailov, the Minister of Atomic Energy of the Russian Federation, mentioned a number of cases of theft of radioactive materials from the Chepetskii Mechanical Plant, where more than one hundred thousand tons of material with a low level of uranium-235 are currently stored. According to Mikhailov, these cases were the result of a sting operation by the Ministry of Internal Affairs to reveal possible channels of crime -- police agents offered up to $ 100,000 per kg for material that has a market price of only several dollars per kilogram. In the interview, Mikhailov also mentioned the case of the smuggled weapons-grade plutonium-239 found in Germany last summer. Mikhailov claimed that an analysis of that material by the IAEA, showed that the plutonium could not have been produced in Russia. In response to a question about possible use of smuggled material in a weapon, Mikhailov said that no one country was capable of this, due to the complex technological and industrial processes required to produce a nuclear bomb.

2/95 - YADERNII KONTROL, "Analiz," p. 12-15.

About 1 kg of uranium-235 was stolen from a storage facility for radioactive materials in the town of Polyarnii (Murmansk region) on

11/27/93. The storage facility belongs to the Northern Fleet. The crime was carried out by three officers of the Northern Fleet, who intended to sell the material. The officers stole the active components of three fresh fuel assemblies for a military submarine reactor.

The theft was possible due to inadequate physical protection and the absence of an effective alarm system at the storage facility. As for item accounting and item identification at the storage facility -the chief of storage checked seals on containers only once every two days at most.

According to Mikhail Kulik, the Special Investigator for the military office of the public prosecutor of the Northern Fleet, "organized crime groups are working more and more actively to obtain a significant batch of nuclear material from the Northern Fleet." In this case, Kulik noted, a serious buyer was not involved. Nevertheless he did not rule out the possibility that the case could have been a test run.

After the theft, the number of guards was increased and guards were equipped with portable two-way radios. However there was not enough money for either an effective alarm system or the re-equipping of the storage facility. [See also MURMANSKII VESTNIK, "Sueta vokrug urana", 2/25/95, p.2.]

1/31/95 - IZVESTIYA, "Nuclear Mafia Goes Out Onto Market," p. 8.

Lithuanian security personnel in Kaunas arrested two men while posing as customers for radioactive materials. The two men, Y. Vilchinskas and V. Karbauskas, tried to sell the police a sample of 15 grams of uranium-238 for $2,000 per kg. At the sellers office in Vilnius, the police seized a container of several kilograms of uranium. An additional two people are under investigation by Lithuanian authorities. According to press reports, there are 100 kg of uranium "wandering around" on the Lithuanian black market. The Lithuanian prosecutor's office suspects that Visaginas is one of the nuclear mafia's main centers of operation.

1/30/95 - FINANCIAL TIMES, "Truck sparks nuclear alert," p. 1.

Experts in Lithuania are investigating a truck that set off radiation alarms on the border between Belarus and Lithuania. Two tons of tungsten was discovered under a false floor in the Zil 131 truck, which was of a type commonly used in the Soviet military.

It was not clear whether it was the truck or the tungsten that set off the radiation alarms because tungsten is not naturally radioactive. According to a radio report, the truck may have transported radioactive cargo in the past or the tungsten had become radioactive while in storage prior to its placement in the truck. [Executive News Service, 1/30/95, originally in Reuter, 1/29/95, "Lithuanian N-plant to deactivate smugglers' truck."]

1/29/95 - REUTER, "Lithuanian N-Plant to Deactivate Smugglers' Truck."

Lithuanian radio reported on Sunday that a truck which triggered radiation alarms on the border between Belarus and Lithuania has been taken to the Baltics' only nuclear power plant for investigation and decontamination. When the truck crossed into Lithuania, it was found to be carrying 2 tons of tungsten beneath a false floor.

The daily RESPUBLIKA reported that two men have been arrested for attempted smuggling in connection with the incident, which occurred at Medinikai, about 18 miles east of the Lithuanian capital Vilnius. Border guards were quoted as saying that the rate of radioactive emission was about 3.600 microroentgens/hour inside the truck and 800-1,000 microroentgens/hour outside it. (A level of 15-20 microroentgens is considered safe.) According to the radio report, it remains unclear whether it was the truck or the cargo which was radioactive. [See also RFE/RL DAILY REPORT no. 21, part I, 1/30/95, "Radioactive Tungsten Seized on Lithuanian-Belarusian Border."]

1/26/95 - NUCLEONICS WEEK, "Prosecutors Have Little To Report In Case Against German Pu Suspect," pp. 7-8.

Alfred Jaekle, a German arrested in May 1994 with six grams of Pu-239 was charged in mid-January with illegal possession of radioactive material and of violating the Weapons of War Act. Conviction can bring a maximum five year sentence. Jaekle denies that he was involved with smuggling plutonium, although a co-defendant has stated that Jaekle intended to sell larger amounts of plutonium.

1/24/95 - Personal correspondence with Vladimir Orlov.

According to Mikhail Kulik of the Military Office of the Public Prosecutor of the Northern Fleet, in November 1994 the "Active parts of three fresh heat-extracting assemblies for nuclear reactors of atomic submarines," were stolen from Murmansk. The stolen assemblies were of BM-4 AM type used in nuclear submarine reactors, and contained 283.3 g of U-235.

Kulik also states that security in Murmansk is lax and that entry into the storage area is simple. The storage area does not have an alarm system as such. Although regulations governing the safeguarding of materials exists, they are not carried out in Murmansk due to a lack of funds and due to the neglect of the headquarters.

According to Kulik, organized crime is making greater attempts to steal radioactive materials from the Northern Fleet. At present, the thieves have been amateurs and not professional organized criminals. The three men indicted for stealing the assemblies were Captain 2nd Class Alexey Yurievich Tikhomirov, Oleg Mikhailovich, and Senior Lieutenant Dmitry Jurievich Tikhomirov. The three men admitted their guilt.

1/24/95 - Uranium Institute News Briefing 95/4, "Estonia: A Man Accused Of The Illegal Possession. . .," p. 2; originally from BBC Monitoring Service.

In Estonia's first conviction for the possession of radioactive materials, an unnamed man is convicted to one year of "conditional" imprisonment for the illegal possession of almost 3 kg of uranium oxide.

1/19/95 - INTELLIGENCE NEWSLETTER, No. 256, "More Uranium Finds."

On January 14, the head of Hungary's border police, Gyorgy Bakondy, stated that a number of recent uranium seizures in central Europe were due to the introduction of a new system to detect radioactive materials. Bakondy also stated that 1.7 kg of uranium was seized at the border station of Hegyeshalom.

The article alleges that the uranium discovered in Hungary and the 2.7 kg of uranium-235 enriched to 87.5% confiscated in the Czech Republic last month may have come from the Research Institute on Nuclear Fuels and Security (sic) in Minsk, Belarus. The report cites unnamed experts to the effect that the Belarusian government has "turned a blind eye" to the "export" of radioactive materials by the institute, so that the institute can survive.

According to the report, the uranium confiscated in Hungary and the Czech Republic was destined for dealers in Poland, who would then sell it to unknown buyers.

1/12/95 - NUCLEONICS WEEK, "Pellets Confiscated In Sting May Be Stolen Ignalina RBMK Fuel," pp. 9-10.

Lithuanian authorities have seized 8 kg of uranium pellets which allegedly were stolen from the Ignalina Nuclear Power Plant by an "insider," one of the plant's guards. Povilas Vaishnis, director of the Lithuanian Nuclear Power Safety Inspectorate (VATESI), has confirmed that authorities did in fact confiscate the uranium, which is currently under investigation by the Lithuanian General Prosector's Office. Analysis of the uranium's form and content is also underway. In a mid-December sting operation, National Security officers arrested three Lithuanians who reportedly were trying to sell these uranium pellets. [See also Ariane Sains, NUCLEONICS WEEK, "Source of Uranium Pellets Being Sought By Authorities," 1/26/95, p. 8.]

1/11/95 - REUTER, "Hungary Seizes Smuggled Uranium."
On December 10, 1994, Hungarian border guards seized 1.7 kg (3.75 lbs.) of uranium on the Austro-Hungarian border. The material most likely originated from the former Soviet Union, and four Slovak citizens were arrested in connection with the incident. Hungary's official MTI news agency said that no further details were available, since the incident has been kept secret to facilitate investigations.

1/4/95 - REUTER, "German Charged With Smuggling Plutonium."
German prosecutors have charged Adolf Jaekle, a German businessman, with smuggling weapons-grade plutonium-239 last May. The chief prosecutor in the southern city of Constance said that Jaekle violated weapons-trading laws by illegally handling radioactive materials, but that he denied knowing that the material was of weapons-grade quality.

1/2/95 - NUCLEAR FUEL, "Czech Find May Be Re-enriched REPU to Fuel Naval or Research Reactors," pp. 12-13.
Czech law enforcement and nuclear energy-related agencies are now looking for the diversion point of the 2.7 kg of highly-enriched uranium (HEU) found in the back seat of a car in Prague in mid-December. According to the analysis performed by the Nuclear Research Center at Rez, near Prague, the material was uranium dioxide. Traces of U-236 and U-232 were detected, indicating that the HEU may be reprocessed uranium (REPU) from stocks which were originally irradiated in a reactor and then re-enriched, converted and made into new fuel.

1/95, YADERNYI KONTROL, "Informatsiya" section, p. 8.
Romano Dolce, the assistant to the public prosecutor in the town of Como (Italy), has been arrested. He was accused of participating in international swindles, including operations concerning counterfeit dollars and radioactive materials. According to the report, it is probable that he had ties to an Italian mafia group, which had an interest in Moscow. Dolce is renowned in Europe for launching a campaign against "highly enriched uranium traders" from Russia two years ago. According to one version of events, the HEU scandals were created by Romano Dolce in order to provide cover for real criminal operations in Europe.

1/95 - Bernhard Falk, Vice-President of the Federal Criminal Investigations Office, "Nuclear Criminality in Germany," in German.
There were 267 reported cases involving smuggled radioactive materials in Germany in 1994, of which 85 were "classified as shams." For the most part, the radioactive materials originated from Eastern European countries, although attempts at discovering the specific plants from which the radioactive materials originated have not been successful. In 1994, 54 percent of the suppliers of radioactive materials were non-German, and the groups involved indicate organized crime. Police state that there is currently no real end-user market for radioactive materials, although the probability of its future existence is increasing due to the increased guaranteed supply of the materials.

1/95 - YADERNYI KONTROL, "Informatsiya" section, pp. 2f.
In October, the investigation was completed into the criminal case involving the diversion of 1.5 kg of fresh nuclear fuel from the Murmansk submarine base (North Sea Region). The diversion occurred in November of 1993. The case has been taken to court.

Mikhail Kulik, Special Investigator for the Northern Fleet Military Procuracy, describes security at the storage facility where the diversion incident took place as follows: "On the side facing Kola Bay there is no fence at all. You could take a dinghy, sail right in -- especially at night -- and do whatever you wanted. On the side facing the Murmansk industrial zone there are vessel repair facilities and timber processing combines -- in other words, an unprotected industrial area. There are holes in the fences everywhere. And even in those places where there aren't holes, any child could knock over the half-rotten wooden fence boards... Getting right to the back door of the storage facility would present no difficulty."

1/95, YADERNYI KONTROL, "Informatsiya" section, pp. 2f.

Viktor Mikhailov, Russia's Atomic Energy Minister, has issued the following statement on the problem of accounting and control of nuclear materials:

"Insofar as weapons-grade nuclear materials are concerned, the accounting and storage system for such materials guarantees their unconditional -- and I emphasize this point -- security. These materials cannot leak out anywhere. Moreover, we must implement the newest technical security devices. We are working on this now, but slowly due to lack of resources.

The first problem is that we need to build new, better-quality storage facilities... The second problem is containers... of which we need approximately 100,000."

Winter 1994-1995 - INTERNATIONAL REVIEW, "Is Nuclear Know-How Escaping from Russia?" p. 10, by A. Cernik.

American scientists were told by their Russian counterparts that Minatom officials are investigating three MOX production facilities for suspected thefts of material. The three facilities under investigation are Chelyabinsk-65, the Bochvar Institute of Inorganic Materials, and the Institute of Atomic Reactors.

12/1-31/94 - Department of Energy Monthly Report - Illicit Trafficking of Nuclear Materials, "Update - Radioactive Container Budapest, Hungary."

A stainless steel container siezed by Hungarian police was reportedly found to be empty when opened. The container's walls were reported to be "mildly radioactive," indicating that the container may have once contained uranium.

12/23/94 - RFE/RL DAILY REPORT no. 242, "Interpol to Help Czechs With Nuclear Smuggling Case."

According to Czech Interpol official Vratislav Gregr, the Czech branch of Interpol has turned to its colleagues in Russia, Belarus and Germany for assistance in investigating the origin of the weapons-grade material seized recently in Prague. Final analysis indicated that the material was in fact uranium-235 enriched to 87.7% -- i.e., weapons grade, but slightly lower than the enrichment level preferred by bomb-makers.

12/22/94 - THE NEW YORK TIMES, "Czech Cache of Nuclear Material Being Tested For Bomb Potential."

The tests run on the nearly 3 kg of uranium seized by Czech police have confirmed that it is 87.5% enriched uranium-235, which makes it nuclear weapons-grade. According to a Czech Interior Ministry spokesman, "Uranium enriched with the 235 isotope to the degree of 80 to 90 percent is used -- like plutonium 239 -- as the trigger for igniting the thermonuclear part of a nuclear warhead." A Czech nuclear physicist and two citizens of the former Soviet Union were detained in Prague last Wednesday. [See also REUTER 12/20/94, "Czechs Confirm Seized Uranium Is Weapons-Grade"; THE WALL

STREET JOURNAL, 12/20/94, p. A7; RFE/RL DAILY REPORT no. 240, "Czech Officials on Seized Uranium," 12/21/94; REUTER, "Czech tests confirm highly enriched uranium haul," 12/22/94; Rick Atkinson, WASHINGTON POST, 12/21/94, pp. A27, A30, "Prague Says Uranium Found in Czech Auto Could Trigger Bomb."]

12/22/94 - REUTER, "U.S. Says 'Lively Market' In Smuggled Uranium."
U.S. Defence Secretary William Perry has expressed concern over what he called a "lively market" in weapons-grade material from the former Soviet Union. In an interview with U.S. television networks, Perry said that there have been many discoveries of uranium in quantities "not enough to make a bomb but still enough to worry you." He added, however, "I believe that to this date they have not been successful in transferring any significant amounts of weapons-grade material."

12/19/94 - NUCLEAR FUEL, "Some 'Vagabonding Russian Plutonium' Could Be From East German Inventories," pp. 9-10.
Data has surfaced to suggest that the small samples of plutonium at large in eastern Europe may have come from the inventories of over a dozen physics laboratories in former Soviet bloc countries, including one facility in the former German Democratic Republic. The director of this establishment has confirmed that the USSR supplied it with "several grams" of pure plutonium before 1990, adding that existing records do not indicate whether any of the material was lost or discarded since that time.

12/19/94 - REUTER, "Czechs Seize Suspected Weapons-Grade Uranium."
According to a spokesman for the Czech Interior Ministry, Czech police have made a major seizure of what they believe to be weapons-grade uranium, detaining three persons in connection with the incident. Czech experts are still running tests on the almost 3 kg (6.6 lbs) of radioactive material seized in Prague last Wednesday; they say they are 90% certain that it is a highly-enriched isotope of uranium-235.

On Sunday U.S. Central Intelligence Agency Director James Woolsey stated that the United States was concerned about the possibility of extremists getting their hands on nuclear materials in Russia and other former Soviet republics. Asked whether there would soon be a "terrorist-owned" nuclear weapon, Woolsey told CNN: "It's not impossible and it is one of our greatest concerns." [See also REUTER, "US concerned about nuclear materials in Russia," 12/18/94; RFE/RL DAILY REPORT no. 239, 12/20/94, "Update on Nuclear Material Seized in Prague" and WASHINGTON POST, 12/20/94, p. A31, "Czechs Seize Uranium Believed From Russia."]

12/15/94 - RADIO LIBERTY DAILY REPORT no. 236, "Ukrainian Soldiers Try to Smuggle Missile Fuel Abroad."
Ukrainian security officials have informed Reuter of the arrest of two Ukrainian servicemen who intended to smuggle samples of missile fuel abroad. The two men -- one of them an army captain who had access to a missile fuel storage area -- allegedly admitted that they planned to sell "a significant quantity" of the fuel to another country. Officials would not reveal the origin of the fuel or its intended destination.

12/9-15/94 - MOSKOVSKIYE NOVOSTI, No. 49, "Nuclear Security Is Inadequate and Outdated." p. 14, Alexander Bolsunovsky and Valery Menshchikov.
There were eleven failed attempts in 1993 to steal uranium from Russian nuclear facilities. Additionally, there were 900 failed attempts to break into secret Russian nuclear facilities and there were 700 cases in which workers at nuclear facilities attempted to steal secret documents. Security at the facilities is hampered by the lack of special control instruments, under-staffing of military units, and low levels of training.

A reason that the number of attempts to steal nuclear material has increased is that for months people working at nuclear facilities were not paid their wages and the theft of nuclear materials could improve their financial situations. Also, Russia lacks a system of MC&A and physical protection that meets international requirements.

12/9/94 - ROSSIISKAYA GAZETA, "Skolko stoil 'uranovyi reis'?" p. 2.
Washington is maintaining an official silence in regard to the cost of its recent "Operation Sapphire," during which American forces airlifted some 1,300 lbs. of highly-enriched uranium out of Kazakhstan. According to this source, Almaty did not want the incident to receive much publicity. Journalists who allegedly are well-connected on the political scene are saying that the operation cost the American taxpayer some three million dollars.

12/8/94 - THE ASSOCIATED PRESS, "German Role in Russian Plutonium Disposition?"
The head of Germany's Federation of Industry (BDI), Tyll Necker, has stated that the recent finds of Russian plutonium in Germany justify a German role in reprocessing weapons-grade fuel into MOX fuel. Siemens AG, the largest German company involved in such reprocessing, argues that conversion to MOX is the best way to "render harmless" the plutonium. In accordance with a 1992 agreement between Russia and Germany, a project group (including Siemens AG) has been set up to examine the feasibility of using plutonium in breeder and thermal reactors.

12/6/94 - Yonhap (Seoul); in FBIS-EAS-94-234, 12/6/94, "Plutonium Detecting Equipment Installed at Airport."
South Korea installed plutonium-detecting equipment in its airports in recognition of the smuggling of radioactive materials from the former Soviet Union. Russian plutonium is reportedly entering Southeast Asia, Japan, and Taiwan. Hong Kong is becoming a major black market for plutonium. Intelligence sources state that Russian scientists cannot avoid the temptation of stealing plutonium because it is worth $250,000-$300,000 per kg on the black market.

12/5/94 - TIME, "Sapphire's Hot Glow," pp. 38-9.
Earlier this year, following a series of secret meetings with representatives from the U.S. State Department, the Pentagon and the Department of Energy, the Kazakh government quietly requested U.S. assistance in disposing of more than 1,300 lbs. of highly enriched uranium from Kazakhstan's Ulba Metallurgical Plant near Ust-Kamenogorsk. This decision led to the clandestine operation known as "Operation Sapphire," in which the uranium was loaded onto C-5 transports to be taken back to the Oak Ridge nuclear storage facility in Tennessee. According to U.S. Defense Secretary William Perry, "We have put this bomb-grade nuclear material forever out of the reach of potential black marketeers, terrorists or new nuclear regimes."

Officials on both sides feared that the uranium might fall into the wrong hands, since Iran allegedly bought some low-grade uranium from that same plant in 1992 and may have expressed interest in purchasing higher-grade uranium, as well. In addition, physical security at the Ust-Kamenogorsk plant reportedly left much to be desired: instead of chemical assays, radiation sensors or other high-tech safeguards to account for the material, its presence or absence was simply noted by hand in a ledger. [See also THE WASHINGTON POST 11/24/94, p. A32; THE LOS ANGELES TIMES 11/23/94, front page + A9; REUTER 11/24/94, "IAEA Kept Informed of U.S.-Kazakh Nuclear Deal" and "Kazakhstan Says Nuclear Deal Boosts Disarmament."]

12/94 - THE FRANKFURT PEACE RESEARCH INSTITUTE, "Vagabundierendes

Nuklearpotential der ehemaligen Sowjetunion," by Annette Shaper.

1994 was the "Summer of Nuclear Smuggling" in Germany, marking the first finds of actual weapons-grade plutonium and uranium in Tengen, Landshut and Munich. According to this source, however, German media sources tended to jump to the conclusion that the smuggled nuclear materials originated at Russian facilities for nuclear research and/or production. Moscow expressed its discontent at being "unfairly" blamed for these "leaks," claiming that Germany had not kept Russia informed of developments in the three aforementioned cases, and Russo-German relations became strained as a result. Now, following testing of the substances in question, it appears that they would not necessarily have had to come from Russia's military-nuclear complex, since materials of the same composition are in fact quite common at both civilian and military research laboratories.

The article also addresses the issue of the mysterious substance known as "red mercury," as profiled in a German TV documentary in early 1994. According to this documentary, Russia has succeeded in constructing a miniature nuclear weapon, the size of beer glass, which could potentially fall into the hands of terrorists. A former U.S. nuclear weapons manufacturer, Samuel Cohen, is quoted as saying that all non-proliferation efforts up to the present time have been wasted since Russia has managed to build this new, clean nuclear weapon.

11/1-30/94 - Department of Energy Monthly Report - Illicit Trafficking of Nuclear Materials, "Radioactive Container - Budapest, Hungary."

A 46 kg stainless steel case confiscated in Hungary could be composed of depleted uranium surrounded by stainless steel. This would account for the presence of uranium in tests conducted by Hungarian scientists on the closed container. The scientists most likely used gamma spectroscopy tests to detect the uranium. The tests most likely detected U-238, because U-235 would have attracted more attention.

11/25-26/94 - NEZAVISIMAYA GAZETA, "Kazakhstan obogoschaet SSHA uranom" and "Uranovaya sdelka okazalas vesma vygodnoi."

According to this source, the 600 kg of weapons-grade uranium brought to the U.S. from Kazakhstan in "Operation Sapphire" has an enrichment level of up to 90%, and approximately 5% of the material is suitable for manufacturing nuclear weapons. Such a quantity of weapons-grade uranium would be enough to make between 20 and 50 nuclear bombs. [See also IZVESTIYA 11/25, "Kommertsiya ili politika?"; KOMSOMOLSKAYA PRAVDA 11/26/94, "Uran kupili na ura!" p. 3.]

11/24/94 - FRANKFURTER ALLGEMEINE ZEITUNG, No. 237, "One of the Biggest Cases of the Decade."

Hungarian police confiscated a heavy container filled with radioactive material on 10 November. According to a staff member of the Central Institute for Physical Research in Budapest, tests indicated that the container held 28 kg of a radioactive material that could be uranium. Russian specialists were to conduct tests once they arrived in Budapest, before the container was opened. The material was reportedly fuel rods from a nuclear-powered submarine, which was to be sold to a Third World country that would like to build nuclear submarines. Moscow tipped off the Hungarian police about the smuggled uranium.

11/22/94 - EXECUTIVE NEWS SERVICE, "Two Arrested After Cesium Seizure in Germany."

German police have seized one milligram of radioactive cesium-137 that apparently was smuggled into Germany from Belgium. The two men detained in connection with this incident mistook the caesium for weapons-grade uranium. The cesium is not believed to have originated in Eastern Europe.

11/21/94 - ANSAMAIL Database (Rome), "Yerin Plays Down Threat Of Nuclear Trafficking."

Viktor Yerin, the Russian Minister of the Interior, stated at the U.N. Crime Conference in Naples that the world has nothing to fear from recent incidents of smuggling of radioactive materials and technology. According to Yerin, over the past two years there have been 80 uncovered smuggling cases, although none of the cases have involved materials that could be used to build nuclear weapons.

11/21/94 - REUTER, "Hungarian Scientists Probe Radioactive Container."

Scientists at Hungary's National Radiobiological Institute are currently examining a mysterious 46-kg stainless steel container said to hold fuel elements from a nuclear submarine. Judging from the gamma rays radiating from the surface of the container, the scientists believed that uranium is present.

11/10/94 - TANGO (Berlin), "Reports Details of Nuclear Dealing," pp. 98-101, in German.

The article alleges that German investigators are on the verge of solving one of the largest nuclear deals to date, which involves DM250 million and enough fissile materials to build an atomic bomb like the one dropped on Nagasaki.

The Zur Reichskrone Hotel in Maria Enzersdorf, located south of Vienna, is reportedly one of the most important meeting places for international nuclear dealers in Europe. Buyers from North Korea, Iran, Iraq, and Syria have roomed at the hotel, as well as many European dealers.

According to the report, one of the most important dealers in the Central European nuclear trade is Dr. Walter Wolf, a former cosmetic surgeon and current owner of a consulting company in Vienna. The article cites a secret report by the Austrian State Police that Wolf has "contact with the mafia and various underworld circles." Wolf is reportedly under international investigation for dealing in plutonium. Tango reports that German and Austrian investigators believe that Wolf controls a large part of the international nuclear trade and coordinates with the most important godfathers of the Italian Mafia and the Russian Mafia. Wolf allegedly is the only person capable of offering thermonuclear warheads for Scud missiles.

The article maintains that investigations by the Vienna State Police, the Czech Intelligence Service, and the BKA have revealed the following people as main organizers of the European nuclear mafia:

Helena Bagarova, Wolf's contact in the Czech Republic.

Alfred Jaeckle, a businessman in Germany, suspected of selling forged money and nuclear material.

Norman Albert Derbyshire of Great Britain. Derbyshire "procured" nuclear materials from Bulgaria and was arrested in October 1992 for a two year term.

Sergey Popov of Russia. According to Czech intelligence, Popov attempted to sell nuclear material to the West in May 1993 through a contact called Kotals.

Michael Popov of Goldenstedt, was arrested after trying to sell 35 containers each holding 2 g of Pu-239 and "eight times 13.5 kg" of U-238 in Bremen on August 12, 1994.

Cvetko Jordanovic, a Russian emigre in Vienna, attempted to smuggle nuclear material to the West from Russia in 1993 through an agent named Juerg Bollmann.

Giovanelli Vincenzo, a member of the Italian Mafia from Hamburg who has contacts with the Russian Mafia.

Franz Cobert, sells nuclear material from the Russian Red Army through his company called Zemojex in Monheim.

Robert Schmidt, a German who attempted to sell 2 kg of plutonium.
Michael Guth, a German international arms dealer. Deals in nuclear materials from a location in the Philippines.
Gerhard Zehmann, from Salzburg. Zehmann is reportedly a very important advisor to those desiring nuclear material.
Anna Hoedl, from Austria, arrested while attempting to sell nuclear materials in April 1993.
Walter Ikstrand of the Swedish military is reportedly Norman Derbyshire's contact.
Yilmar Izmir, manager of the Yal company in Vienna, has contacts with Wolf and has sold at least 15 kg of uranium.

The nuclear mafia's infrastructure has reportedly expanded to include two laboratories for analyzing nuclear materials and, according to the Austrian Interior Ministry, the SGS and APS institutes in Vienna and the Robert Schell company in Meckenheim, near Bonn.

The article states that, according to David Kay of the IAEA, "There will be a nuclear accident within the next three years caused by illegal trade."

11/7/94 - NUCLEAR FUEL, "IAEA Meeting on Smuggling Problem Avoids Sensitive Data Sharing Issue."

Upon the conclusion of a meeting of IAEA experts last week, it was determined that the Vienna-based agency should become more involved in monitoring accounts of illegal nuclear material traffic. However, the delicate issue of potential IAEA access to member states' fissile material signature data was not touched upon. IAEA Director General Hans Blix stressed that the IAEA's role in containing nuclear material contraband can be only an auxiliary one, and that "trafficking must first be combated at its source" in those countries where such materials are produced and stockpiled. [See also REUTER 11/3/94, "Nuclear Smuggling to Get More Attention;" NUCLEAR ENGINEERING INTERNATIONAL 11/94, "General Conference Takes Steps on Trafficking," p. 4; DER STANDARD, "Nuclear Authority Prepares Measures Against Nuclear Smuggling," p. 2.]

11/6/94 - IZVESTIYA, "Rossiiskie i amerikanskie uchenye pridumali sposob borby s kontrabandoi iadernykh materialov," p. 2.

Scandals linked with nuclear material contraband have recently been popping up in a number of countries. Although the identity of the suppliers in such cases remains to be determined, Western public opinion tends to ascribe the source of contraband goods to Russia and other former socialist block countries. Russian and American scientists have therefore been working together to develop a technique of "fingerprinting" nuclear materials in order to reveal their origin. [See also MOSKOVSKIE NOVOSTI no. 52, 10/30/94-11/8/94, p. 15.]

11/3/94 - JPRS-TND, "IAEA To Create Data Bank To Combat Nuclear Smuggling," originally in AFP (Paris), 11/3/94, in English.

The Russian delegate to the IAEA for the creation of a data bank to combat the smuggling of nuclear materials, Sergei Berdnikov, stated that "the illegal trafficking of nuclear material is not the work of a mafia but the work of more or less organised fraudsters." Furthermore, Berdnikov stated that "even if small quantities of stolen material have managed to evade the vigilance of Russian authorities, no case of plutonium has been involved but (only) substances used in civilian industry." According to Berdnikov, no proof exists that the stolen materials have come from Russia.

In the first half of 1994, there were 90 cases of nuclear smuggling reported in Germany, in contrast to 241 in 1993, 158 in 1992, and 41 in 1991.

11/2/94 - REUTER, "Romania Faces Wave of Smuggled Nuclear Material."
This year alone, Rumanian police have seized 10.45 kilos of radioactive uranium and strontium smuggled into the country and arrested 21 people for involvement in the illegal traffic. According to the head of Romania's organized crime squad, "All 10.45 kilos of radioactive material captured so far definitely came from abroad, but experts have yet to establish the origin of each shipment." The materials are believed to have originated in Moldova, Russia and Ukraine. [See also NUCLEONICS WEEK 11/3/94, p. 17.]

11/1/94 - KOMMERSANT, "Iadernyi gruz ne doshel do poluchatelia," p. 14.
Customs officials in Orenburg have seized an unspecified amount of natural uranium which was discovered on board a train at Sol-Iletsk (Orenburg Province). The uranium is believed to have originated in Tadzhikistan, and to have been bound for the Saint Petersburg-based company ISOTOP. A spokesman for Orenburg Customs stated that the uranium cargo was detained because it had neither the required safety documents, nor the necessary permit for transporting nuclear materials across Russian territory.

10/31/94 - COURT TRANSCRIPT OF MURMANSK NUCLEAR SMUGGLING CASE
A Russian navy military tribunal found three Russian citizens -- one of them a captain in the navy and another a lieutenant -- guilty of conspiracy to steal the radioactive sections of three fuel assemblies which contained approximately 1 kg of uranium-235. The two men intended to sell the fuel assemblies and split the proceeds. The material was stolen on the night of November 26 - 27, 1993, from storage area no. 3-30 of military base 31326 in Murmansk.

It was determined that during the period August - November 1993, the lieutenant provided his two partners with vital information concerning the fuel assemblies in question: where they were being stored, the weaknesses of the storage areas's security system and where holes in the surrounding fence were located. The lieutenant also explained the structure of the fuel assemblies, and how to separate the radioactive components of the assemblies from the technical ones.

The uranium from the fuel assemblies weighed 1448.9 grams, and was composed of uranium-235, -234, -236 and -238. There were 283.3 grams of uranium-235 in each assembly.

10/28/94 - PRAVDA, "Komu adresovalsia konteiner s uranom," p. 1.
Counterintelligence officers in the city of Pskov have detained three persons who were seeking to pass 67 kg of "industrial uranium" to unidentified persons, who allegedly are citizens of the Baltic states. [See also REUTERS 10/26/94; KOMMERSANT 10/28/94, p. 14; JPRS-TND-94-020, 10/27/94, "Three Smugglers Detained With 67 kg of Uranium-238 in Pskov," originally in Itar-Tass (Moscow), 10/27/94.]

10/21/94 - SEGODNYA, "V Turtsii arestovana partiya urana," p. 1.
Turkish police have seized 750 grams of uranium in Istanbul. The owner of the materials, a citizen of Azerbaijan, sought to sell them for $60,000. According to an official at the Istanbul Atomic Energy Nuclear Investigation Center, the uranium was of weapons-grade quality. The Azeri citizen was Ramiz Shakhgeldiyev, who stated that he had bought the U-238 in Baku. [See also RFE/RL DAILY REPORT no. 201, 10/21/94; REUTER 10/20/94, "Azeri Detained in Turkey With Uranium For Sale"; ZERKALO 10/22/94, "Azeri Arrested For Plutonium Smuggling," p. 2.]

10/21/94 - THE WASHINGTON TIMES, "U.S. Close to Abandoning Russian Plutonium Storehouse Project," p. A17.
After spending $15 million on a high-security storehouse to help

Russia safeguard its plutonium against nuclear thieves, the Pentagon is now considering discontinuing the project due to the lack of Russian cooperation. Senior Pentagon officials maintain that Russian Atomic Energy Minister Viktor Mikhailov does not want the U.S. to be party to critical details about what will become of Russia's loose plutonium following its removal from dismantled nuclear warheads. The Pentagon has allocated $75 million of Nunn-Lugar funds for equipping the storehouse, which is to be located in the formerly-secret city of Chelyabinsk-65.

10/18/94 - REUTER, "Russians Seize 27 kg of Uranium-For-Sale."
According to an ITAR-TASS report, Russian counterintelligence authorities have seized 27 kg of uranium-238 from illicit dealers. The industrial-grade uranium allegedly was destined for sale in Moscow. [See also THE WASHINGTON TIMES 10/19/94, p. A15.]

10/18/94 - RFE/RL DAILY REPORT no. 198, "Uranium Said To Be Bound For Iraq Seized."
Moscow authorities have seized 27 kg of uranium that was reportedly destined for Iraq. According to the account presented on Russian television, several Iranian businessmen planned to purchase the uranium for $1.5 million and then resell it to Iraq. The uranium, which was discovered in the trunk of a car belonging to one of the businessmen, was said to be uranium-238 mixed with uranium-235.

10/17/94 - FBIS-SOV, "Uranium-238 To Be Sold in Iraq Intercepted," originally from NTV (Moscow), 10/17/94, in Russian.
Russia's intelligence service arrested an unknown number of people with 27 kg of uranium-238, with some uranium-235, in Moscow. Unofficial Russian reports indicate that the intended buyers of the Uranium were Iranian businessmen. According to the reports, the Iranians were going to purchase the uranium for $1.5 million and then resell it to Iraq.

10/14/94 - RUSSIA & CIS TODAY no. 0774, "Plutonievyi tuman," p. 5, originally from SANKT-PETERBURGSKIE VEDOMOSTI 9/28/94, p. 7.
Rumors continue to abound in regard to the plutonium recently confiscated by the Germany police -- false and contradictory rumors, according to this source. The Western press is essentially blaming Russia for the incident, on the grounds that safety conditions at nuclear facilities there leave something to be desired. [See also PRAVDA 8/26/94, "A byl li malchik?" p. 3; KOMMERSANT DAILY 8/26/94, "Chernyi rynok plutoniya rabotaet bez vykhodnykh i prazdnichnykh dnei"; PRAVDA 8/30/94, "Plutonii s vizitkoi," p. 3.]

10/13/94 - THE WASHINGTON TIMES, "Russian Gangs Threaten Europe," p. A15.
According to Kurt Schelter, state secretary for security at the German Interior Ministry, Germany is being overrun by gangs of highly organized and armed smugglers from Russia, who bring with them the threat of "terrorist nuclear blackmail." A high-level German delegation recently returned from Moscow after shipments of plutonium from Russia to the Middle East were intercepted in Germany. Mr. Schelter did not specify the destination of the shipments, but did not deny that Iran was one of the countries involved. He stated, "It is true that the Russian side continues to deny that the weapons-grade materials seized in Germany originated in the Russian Federation, but there are indications to the contrary."

10/12/94 - JPRS-TND, "Police Say Smuggled Uranium Originated in Former USSR," originally in ADEVARUL (Bucharest), 10/12/94, p. 1, in Romanian.
Romanian police arrested three Moldovan citizens, two Israeli citizens and two Romanian citizens for attempting to sell 7 kg of uranium and some strontium for $400,000. The radioactive materials were contained in a lead

pipe. Early results of an investigation indicated that the materials originated from different states of the former Soviet Union.

10/12/94 - **THE FINANCIAL TIMES**, "Nuclear Arrests In Romania," p. 2.
Rumanian authorities announced that they have seized 7 kg of uranium as well as a quantity of strontium, both of which are believed to have originated in Ukraine. Two Jordanians have been arrested in connection with this incident, which is the second interception of uranium smugglers in as many weeks. [See also REUTER 10/12/94, "Romania Seizes Uranium, Arrests Jordanians."]

10/10/94 - NUCLEAR FUEL, "Clinton-Yeltsin Summit Yields Agreements on Nuclear Materials," pp. 20-1.
During their two-day summit in Washington last month, U.S. President Bill Clinton and Russian President Boris Yeltsin agreed to step up efforts to combat the threat posed by smuggling of Russian weapons-grade nuclear materials. In their joint statement of September 28th, the two leaders announced that they would improve safety conditions for fissile materials and warheads stored in Russia, share intelligence and coordinate law enforcement efforts. In addition, President Clinton stated that the U.S. is "prepared to provide an additional $20 million for nuclear materials security and accounting system upgrades," above and beyond the $10 million already allocated for this purpose under the agreement with Russia on nuclear material protection and control accountability (MPC&A).

10/6/94 - REUTER, "Two Rumanian Officers Arrested Over Uranium Haul."
Two Rumanian officers have been arrested for attempted dealings in smuggled uranium. According to local Bucharest newspapers, police in the nearby village of Snagov seized 4.5 kg (nearly 10 lbs.) of uranium-235 and -238 which may have originated in the former Soviet Union. [See also REUTER 10/7/94, "Romania Says Stolen Uranium From Outside"; RFE/RL DAILY REPORT no. 190, "Four Arrested In Romania For Possessing Radioactive Material."]

10/4/94 - LONDON TIMES, "Plutonium traffic boosts Israeli fears over Saddam," p. 12, Michael Evans and Michael Theodoulou.
Due to evidence that Iraq may have been involved in cases of smuggled plutonium from Russia, Israel is pressuring Western governments to maintain its sanctions against Iraq. Following the seizure of radioactive materials in Germany, it is known that Russian businessmen and a former employee of a Russian nuclear weapons facility met with Iraqi officials to determine the damage caused by the seizures and to consider alternative routes for smuggling radioactive materials.

German officials are searching for five Iraqis following the seizure of 350 g of plutonium in Munich, Germany.

Intelligence agencies have not discovered evidence that Iraq or other states with nuclear aspirations have successfully acquired weapons-grade nuclear material from Russia.

10/1/94 - NEZAVISIMAYA GAZETA, "Atomnyi isteblishment Rossii okazalsya prav," p. 1.
A "well-informed source" is claiming that the plutonium seized at the Munich airport in August, along with other radioactive material samples discovered in Germany this year, may actually have been produced in Germany itself. The German towns of Wackersdorf and Alke were cited as being the likeliest sites for manufacturing such materials. This report provides further support for the view taken by the Russian Atomic Energy Ministry -- i.e., the notion that the international scandal surrounding these incidents was created by the German secret services. [See also FBIS-SOV 9/30/94, "German Services Blamed For Plutonium Scandal," p. 18, originally from ITAR-TASS 9/28/94 in Russian.]

9/30/94 - THE WALL STREET JOURNAL, "Uranium Is Seized In Slovakia," p. A11.

In September, an official from the Slovak Interior Ministry reported the seizure of 26.5 oz. of uranium-235 in Slovenske Nove Mesto, Slovakia. Four Slovaks reportedly attempted to smuggle the uranium into Hungary by car; the uranium is believed to have originated in the former Soviet Union. [See also RFE/RL DAILY REPORT no. 187, 9/30/94, "Slovak Police Detain Uranium Smugglers," p. 8; THE FINANCIAL TIMES 9/30/94, p. 3; REUTER 9/29/94, "Four Slovaks Seized With Enriched Uranium."]

9/30/94 - IZVESTIYA, "Oruzheinogo urana v Kaliningradskom konteinere ne obnaruzheno," p. 1.

Specialists have determined that the Kaliningrad capsule suspected of containing radioactive materials [see IZVESTIYA 10/20/94] actually holds a device used for defectoscopy of the welding compounds used in machine building. Such a device could hypothetically hold about 30 kg of depleted uranium, which cannot be used to manufacture nuclear weapons.

9/28/94 - REPORT OF SEPTEMBER PRESUMMIT MEETINGS ON U.S.-RUSSIAN SECURITY ISSUES from THE WHITE HOUSE, Office of the Press Secretary.

In preparation for the meetings to be held between Presidents Clinton and Yeltsin on September 27th and 28th, U.S. and Russian officials met to discuss security issues of mutual concern, including nuclear security enhancement. Underlying the measures outlined in the summit joint statement on nuclear security, the officials agreed to follow up on the call for cooperation to prevent nuclear smuggling that resulted from the Naples Meeting of July 10th.

9/28/94 - FBIS-SOV, "FIS Spokesperson on Iranian Nuclear Arms Acquisition," p. 14, originally from ITAR-TASS 9/27/94 in English.

According to CIA Director James Woolsey, Tehran is now focusing its attention on Russia, which it views as a potential source of the main nuclear arms components as well as of finished nuclear arms.

However, the press secretary of the director of the Russian Foreign Intelligence Service has told ITAR-TASS that the "Russian Foreign Intelligence Service (FIS) has no information to prove that Tehran focuses its attention on Russia... We cannot quite understand, on what Mr. Woolsey's assertions are based... Oddly enough, whenever a question is raised about abuses in the nuclear field (in certain countries), all eyes are fixed on Russia. Such was the case when contraband plutonium was uncovered in Germany, though its origins have not been found out as yet. And that is what is happening today."

9/26/94 - GOLOS no. 22, "Yuri Baturin o plutonievoi kampanii," p. 3.

Yuri Baturin, assistant to the Russian Federation President on national security issues, has stated in an interview that he would not "stake his life" on the idea that Russian plutonium is 100% secure. Baturin said that in light of the chaotic economic situation, it is difficult to say with certainty that order is being maintained in any given industry.

9/25/94 - REUTER, "Clinton, Yeltsin To Map Expanded Security Ties."

Presidents Clinton and Yeltsin are expected to expand upon the existing U.S.-Russia security relationship at next week's summit meeting. According to senior U.S. officials, this move reportedly will include an initiative to prevent the circulation of "loose" nuclear materials, which are a matter of concern not just with Russia but with nuclear programs everywhere. [See also AVIATION WEEK & SPACE TECHNOLOGY 9/26/94, "Summit To Focus On Nuclear Safety," pp. 23-4.]

9/23/94 - IAEA PRESS RELEASE, "IAEA General Conference Adopts Resolution on Measures Against Illicit Trafficking of Nuclear Materials."

This resolution by the IAEA General Conference asserts that national governments and authorities carry the main responsibility in this field and calls upon IAEA Member States to "take all necessary measures to prevent illicit trafficking in nuclear material." IAEA Director General Hans Blix expressed the agency's readiness to convene a round table specifically to address this issue, saying that IAEA assistance could be expanded in the areas of nuclear accounting and control, physical protection and systematic reporting of accounts of illicit nuclear material trafficking.

9/22/94 - JAPAN ATOMIC INDUSTRIAL FORUM (in Japanese), "Statement By Hans Blix On The Problem Of Nuclear Material Smuggling," p. 3.

At the IAEA General Conference which opened in Vienna on the 19th of this month, representatives of various countries discussed the recent incidents of nuclear smuggling in Germany and agreed to cooperate in finding solutions to this problem. In this connection, the IAEA is to call a meeting of government officials in the nuclear field with the goal of formulating concrete resolutions.

9/22/94 - DDP/ADN (in German), "Intelligence Examining List of Nuclear Smuggling Suspects."

Russia's counterintelligence service is now examining a list, provided by Bonn, of persons who may be involved in nuclear smuggling. Mikhail Dediuchin, head of the department responsible for the security of strategic nuclear facilities, has stated that no final conclusions have yet drawn regarding the list, and that the smuggling of nuclear material from Russia is being exaggerated by the western media. [See also ITAR-TASS 9/22/94 in Russian.]

9/22/94 - FBIS-SOV, "Primakov on Possibility of Nuclear Leaks," p. 39, originally from INTERFAX 9/21/94, in English.

Russian Federal Counterintelligence Service Director Yevgenii Primakov has stated that theoretically, the possibility of nuclear material leakage from Russia does exist. He added, however, "that the leakages most spoken about are those of materials capable of serving as raw materials for the nuclear industry... As for plutonium or materials used for nuclear arms, no one has ever presented us evidence that their leakage has taken place."

9/21-27/94- ROSSIYA, "Atomic Decay: More On The Nuclear Pilferers," p. 4.

According to this source, until now the known cases of nuclear material diversion have contained a great deal of naivet. In January, for example, 3 kg of enriched uranium were taken from the Chepetsky Machine Plant. These same 3 kg later turned up first in the city of Elektrostal, on the grounds of the fire-fighting unit of a mechanical engineering plant, and then again in the city of Pushkino near St Petersburg. "The mystical three kilos wandering from charge sheet to charge sheet," says this author, "and also the fact that on each occasion what was plundered was uranium-238 of a low degree of enrichment and incapable on account of this of being of any interest to weapons manufacturers, are nonplussing the experts."

9/21/94 - PRAVDA, "Za zakrytymi dveryami," p. 7.

Germany and Russia have agreed to present the major western powers with a joint initiative on combatting nuclear smuggling. German Intelligence Services Coordinator Bernd Schmidbauer met with Russian Counterintelligence Chief Sergei Stepashin as a follow-up to the cooperation accord signed by the two countries in Moscow last month. [See also FBIS-SOV 9/19/94, "Deal Drafted To Fight Radioactive Smuggling," p. 8, originally from ITAR-TASS 9/19/94 in English.]

9/19/94 - FBIS-SOV, "Talks With Germany on Nuclear Security Previewed," p.8, originally from INTERFAX 9/17/94 in English.

Sergei Stepashin, director of the Russian Counterintelligence Service, has said that during his upcoming visit to Bonn he will continue discussions with the German secret services on measures to prevent illegal trafficking in nuclear materials. "We have made several very serious investigations to find out who smuggles nuclear components and have reached agreement with Germany to exchange relevant documents," Stepashin said. "I have already said that the German side has given us several names (connected with the Munich incident)." [See also THE WASHINGTON TIMES 9/18/94, p. A6.]

9/19/94 - RUSSIA & CIS TODAY no. 0667, "Uzhestochenie ucheta iadernykh materialov," p. 2, originally from NOVOSTI News Program 9/16/94.

President Yeltsin has signed a degree on improving the system for accounting for and storage of nuclear materials. In this connection, the government has been tasked with forming an interagency commission within the next two weeks. Within one month, the state is to have passed a resolution on the establishment of a state information network for nuclear material accounting. [See also REUTER 9/16/94, "Yeltsin Orders Tighter Control of Nuclear Stocks."]

9/15/94 - THE WASHINGTON TIMES, "Bulgaria Finds Atomic Material," p. A13.

According to a spokesman for the Bulgarian Interior Ministry, Bulgarian police found 19 containers of radioactive materials (including plutonium, cesium and strontium) hidden in two cellars in Sofia. Six Bulgarian citizens were arrested in connection with this incident, which marks the "biggest haul ever reported" in Bulgaria. One container, which held cesium-137, was emitting radiation at 1,000 times the normal level. A senior official from the Bulgarian Atomic Energy Committee, which is charged with registering all radioactive materials in the country, stated that the materials were probably of local origin. [See also THE GUARDIAN 9/15/94, "Sofia Police Raid Nets Nuclear Haul."]

9/15/94 - SEGODNYA, "Khischenie."

Law enforcement officials in Udmurtia are investigating a case of uranium-238 smuggling which reportedly occurred on September 7th in the city of Glazov. Three employees of the local Chepetskii Plant, where radioactive substances are produced, were detained in connection with the incident. [See also BBC SUMMARY OF WORLD BROADCASTS 9/12/94; RUSSIA & CIS TODAY no. 0670, 9/19/94, "Khod operatsii URAN MVD Udmurtii," p. 7; FBIS-SOV 9/12/94, "Stolen Uranium Seized in Udmurtia," p. 31.]

9/13/94 - THE TIMES, "Uranium Ore Smuggler Held."

A Zairean man arriving in Berlin on a flight from Moscow was arrested at Schoenefeld Airport for trying to smuggle about 1 1/2 pounds of uranium ore. The suspect has been taken into police custody for questioning. The material, which had "only a very small level of radioactivity," was found in the man's hand luggage, packed next to food. [See also THE GUARDIAN 9/13/94, p. 8; REUTER 9/12/94, "German Police Seize Smuggled Material."]

9/12/94 - FOCUS (in German), "Control Problems Have Not Been Solved," pp. 258-260.

The Russian Atomic Energy Ministry recently dismissed accounts of plutonium smuggling as "conjecture, lies and a put-up job." According to an official document issued by the Russian State Nuclear Safety Inspectorate, however, "it cannot be ruled out that personnel have built up stocks of nuclear materials that have not been registered... the problem of uncovering metals, explosives and radioactive materials at control points has not been solved." The report concludes that Russian nuclear agencies are resorting to all possible means to protect themselves against any kind of criticism: specifically, making things appear harmless, covering them up and/or hiding them. [See also FBIS-WEU 9/13/94, pp. 15-6.]

9/8/94 - THE FINANCIAL TIMES, "Nuclear Fears Spur Europol," p. 2.
European Union interior ministers are moving towards the creation of a pan-European police agency, motivated in part by fears of weapons-grade plutonium smuggling from Russia and the former eastern block. Germany views the creation of "Europol" as a top priority, while France and Britain want to proceed more slowly.

9/8/94 - JPRS-TND, "Article Alleges Nuclear Material Smuggled in 1991," p. 13, originally from LIDOVE NOVINY 8/25/93 in Czech.
According to allegedly well-informed sources, nuclear crime first touched Czechoslovakia shortly before its division into two separate states. On August 29th, 1991, an Interior Ministry rapid deployment unit and military police were deployed at Mosnov Airport in response to a report that containers with red mercury were concealed in airport hangars. Police failed to find any red mercury, however, nor were any suspects detained. It has been suggested that the incident was nothing more than a provocation, and that a genuine transaction was taking place concurrently, camouflaged by the Mosnov chaos.

9/8/94 - NUCLEONICS WEEK, "Election Time: German Industry Won't Cry Foul On Fissile Stings," pp. 10-11.
It is anticipated that German industry, while unsettled by the way the Bonn government has sensitized the nation to the threat posed by nuclear smuggling, will not object in public because their "standard bearer," pro-nuclear Federal Chancellor Helmut Kohl, faces re-election next month. Key players in German industry "were not at all amused" by recent attention to the government's activities concerning radioactive plutonium. According to one Hanau fuel cycle official, the publicity surrounding the sting operations carried out in July and August "didn't do the cause of nuclear energy here one bit of good."

9/8/94 - JPRS-TND, "Euratom Says FRG Plutonium From 'Russian Nuclear Complex'," pp. 49-50, originally from AFP 8/18/94 in English.
William Gmelin, director of the European Atomic Energy Community (EURATOM), has stated that the six grams of plutonium seized last May by German police near Lake Constance came from a Russian nuclear complex. EURATOM experts have narrowed the list of potential sites down to the three or four most probable ones, which include Arzamas-16 and Yekaterinburg. Gmelin was more cautious, however, concerning the origin of the 350 grams of plutonium seized at Munich Airport on August 10th, since testing has not yet been completed.

9/8/94 - JPRS-TND, "No Plutonium Leak from Strategic Rocket Forces," p. 24, originally from ITAR-TASS 8/16/94 in Russian.
Lt. General Viktor Yesin, first deputy chief of Russia's Strategic Rocket Forces (SRF) Headquarters, has ruled out the possibility of nuclear materials leaks from that quarter. He emphasized that the very design of nuclear charges eliminates the possibility of removing or separating radioactive materials from them.

9/8/94 - JPRS-TND, "Smuggling of Radioactive Substances Said Impossible," p. 29, originally from INTERFAX 8/18/94 in English.
In interview with INTERFAX, a well-informed source in the Russian State Customs Committee has stated that Moscow's Sheremetyevo-2 international airport possesses "very sensitive radio equipment," which makes it absolutely impossible to export radioactive materials from Russia.

The airport equipment was developed by the KGB during the time of the Soviet Union and therefore, according to this source, is 100% reliable.

9/7/94 - SEGODNYA, "Iadernye materialy v Rossii okhranyayutsya 'dostatochno khorosho.'"

In the wake of the visit of German Special Envoy Bernd Schmidbauer, a working group has been established to study Russia's control and physical protection system for nuclear materials, and make recommendations for improving this system. Representatives of the Russian Federation GOSATOMNADZOR maintain that Russia's control and physical protection system functions effectively, and that the real problem lies with scientific research institutes. [See also RUSSIA & CIS TODAY no. 0615 8/29/94, p. 11.]

9/7/94 - RUSSIA & CIS TODAY no. 0640, "Gosatomnadzor Rossii ne kontroliruet voennye iadernye ustanovki," p. 14, originally from VESTI News Program 9/6/94.

Speaking at a Moscow press-conference, the heads of Russia's GOSATOMNADZOR publicly acknowledged that their inspectors do not have access to military nuclear facilities. At the same time, however, they reaffirmed that physical protection levels are sufficient high to preclude the possibility of sabotage or diversion of nuclear materials from around or within Russian nuclear facilities. [See also SPASENIYA no. 25, 9/94, p. 6.]

9/6/94 - DEMOKRATYCHNA UKRAINA (in Ukrainian), "Is There a Nuclear Mafia?" p. 3.

Since German experts believe that at present, most contraband nuclear materials are originating in Russia, attention and criticism from the West have been focused primarily on Russia and on those CIS countries which are shipping warheads to Russia for dismantlement. In an attempt to exculpate Moscow, the Russian mass media -- Ostankino Television, in particular -- have recently been seeking to blame other CIS republics, including Ukraine.

9/6/94 - REUTER, "German Authorities Report New Plutonium Case."

In what may be yet another case of nuclear smuggling, German undercover police posing as buyers reportedly were offered illegal plutonium last week. The German Interior Ministry Spokeswoman who made the announcement declined to go into further detail about the incident.

9/6/94 - RUSSIA & CIS TODAY no. 0637, "MINATOM predlagaet sozdat tsentr po kontroliu za vypolneniem dogovora o nerasprostranenii iadernogo oruzhiia," p. 5, originally from NOVOSTI News Program 9/5/94.

Russia's MINATOM is proposing that an international institute be established to work on tightening up the procedures and methods used to implement the Nuclear Non-Proliferation Treaty and to combat nuclear material smuggling.

9/6/94 - MAGYAR HIRLAP (in Hungarian)

The fissile material seized in Budapest several days ago has turned out to be fuel pellets containing uranium which is not suitable for either nuclear weapons manufacture or use in nuclear power plants. It is suspected that the smugglers were dealing with spent fuel, which would explain the substandard quality of the uranium.

9/1/94 - NEZAVISIMAYA GAZETA, "Yet Another Radioactive Theft," p. 2.

A capsule containing 0.16 ounces of radioactive cesium has been stolen from a chemical plant in Tambov, according to a statement issued by Karl Smolikov of the Russian Ministry for Emergency Situations. [See also THE WALL STREET JOURNAL, "Russian Radioactive Material," p. A8.]

9/1/94 - NUCLEONICS WEEK, vol. 35 no. 35, "Bonn Now Less Certain About Origin Of Seized Plutonium," pp. 1ff.

Leading figures in the German government have acknowledged that, contrary to previous claims, Bonn does not really know where the two plutonium samples seized by German police since May were produced or stored before being diverted to the West. According to Friedrich Bohl, Minister of the Chancellery, it is "possible, but not proven" that this plutonium is of Russian origin. Nor has there been confirmation of allegations that Iraq, North Korea, Basque terrorists and/or Pakistan were involved as buyers of the plutonium.

As for the small amount of gallium found mixed with the plutonium, it was originally taken as an indication that the material had been prepared for use in a nuclear warhead. Since then, however, U.S. weapons engineers and physicists have noted that the gallium was in powder form and not alloyed with the plutonium. It therefore "could have been there to hide the plutonium."

8/31/94 - IZVESTIYA, "Ne vezi plutonii k finnam, zasvetishsia na granitse," p. 3.

Finnish customs officials have announced their intention of setting up radiation detectors along the entire length of the Russo-Finnish border in order to prevent radioactive materials from being smuggled into the country. Since May of this year alone, Finnish police have intercepted four attempts at illegally exporting uranium and plutonium from Russia.

8/31/94 - REUTER, "Kohl, Yeltsin Boost Cooperation On Nuclear Smuggling."

German Chancellor Helmut Kohl and Russian President Boris Yeltsin have expressed confidence that cooperation between the intelligence services of their respective countries will be successful in combatting nuclear smuggling. The joint statement issued following their meeting in Berlin (8/31) said, "They expect it will now be possible rapidly to clear up cases of nuclear material smuggling which have come to light so far, and prevent future cases in good time." [See also RFE/RL DAILY REPORT no. 166, 9/1/94, "Russian and German Secret Services To Cooperate."]

8/31/94 - KOMMERSANT DAILY, "Kontrrazvedchiki za torgovliu uranom ne zaderzhivalis."

The Public Relations Office of Russia's Federal Counterintelligence Service has announced that it intends to sue the newspaper MOSKOVSKII KOMSOMOLETS for a recent article (8/30) claiming that counterintelligence agents are involved in illicit uranium deals. It remains unclear whether the Counterintelligence Service will seek material compensation from MOSKOVSKII KOMSOMOLETS, or simply a refutation of the statements made in the article. [See also RUSSIA & CIS TODAY no. 0635, 9/5/94, p. 17.]

8/31/94 - REUTER, "Uranium Seized In Hungary Not Weapons Grade -- Police."

The uranium seized from suspected nuclear smugglers in Budapest reportedly was useless for making a nuclear bomb in its present form. According to a spokesperson for the Hungarian National Police, the uranium -- which is believed to have originated from the former Soviet Union -- was meant for power plant use. The 2 kg of uranium was believed to be from Russian fuel rods. [See also TIMES, "Nuclear fuel rods siezed in Hungary," 8/31/94; RFE/RL DAILY REPORT no. 165, 8/31/94, p. 9; MAGYAR HIRLAP 8/31/94 (in Hungarian), "2 kg of Radiating Material Seized in Budapest."]

8/31/94- KOMSOMOLSKAYA PRAVDA, "Can A Bomb Be Stolen At Arzamas-16?" p. 2.

This article seeks to dispel the myths surrounding the possibility that weapons-grade uranium was stolen from Arzamas-16. In actuality, according to this source, what was stolen was a sample of uranium-238 weighing about 10 kg. This uranium-238 was "ordinary natural uranium which is as widespread throughout the world as other minerals. Not only can it not be used in a bomb, it cannot be used in any reactor."

8/31/94 - UNITED PRESS INTERNATIONAL, "Radioactive Substance Taken From Russian Factory."

According to Russian news agencies, thieves broke through a wall to steal 0.16 ounces (4.5 grams) of cesium-137 from the storage site of a chemical factory in Uvarovo, located 350 miles south of Moscow. No arrests have yet been made, and investigation of the incident is underway.

8/30/94 - KRASNAYA ZVEZDA, "Nuclear Provocation," p. 3.

The controversy over the plutonium-239 found in the hand luggage of a passenger at Munich Airport has reached Arzamas-16, where nuclear specialists are annoyed at the reluctance of politicians and news agencies to listen to their informed opinion. According to scientists at Arzamas-16, the plutonium in question was neither used nor produced in Russia. Moreover, they claim that no weapons-grade plutonium is missing from Russian facilities. The purpose of this entire "plutonium-uranium affair," according to the author of this article, was simply to get the public worked up, to cast aspersions on Russian nuclear production and scientific centers and to suggest that Russia's secret nuclear installations are in need of stringent international monitoring. [See also NOVAYA YEZHEDNEVNAYA GAZETA 8/31/94, pp. 1-2.]

8/30/94 - REUTER, "Hungarian Police Seize Ex-Soviet Uranium."

Hungarian police have seized 2 kg (4.4 lbs.) of radioactive material, believed to be uranium fuel rods from the former Soviet Union. They also arrested two unidentified Hungarians in the parking lot of a Budapest hotel as they sought to see the material for $40,000 per kilogram.

8/29/94 - NUCLEAR FUEL, "Cache of Material Seized In Munich Is Said To Be High-Grade MOX Fuel," pp. 2ff.

Analysis of the radioactive material seized by Bavarian police at the Munich Airport on August 10th has revealed that it consists of 560 grams of MOX fuel in powder form with an unusually high percentage of plutonium dioxide: about 73% of the mixture (408 grams) is $PuO_2$, while the rest is said to be $UO_2$, mostly U-238. About 63% of the material (350 grams) is elemental plutonium.

8/29/94 - DER SPIEGEL (in German), "Third Man," p. 34.

Justiniano Torres Benitez, the Colombian arrested in Munich with 350 grams of plutonium in his suitcase, initiated the deal in Moscow's smuggler milieu two months ago, but in reality the plutonium affair began much earlier in Madrid -- and the Bavarian Land Office of Criminal Investigations (LKA) was clearly involved right from the start. It has become known that it was an LKA liaison man who lured Torres and his Spanish accomplices to Munich where, on July 9th, the transaction allegedly occurred.

The Federal Office of Criminal Investigations (BKA) is criticizing its Bavarian colleagues quite harshly for having carried out this operation on their own. Criminal police officials are in agreement that police liaison men must not act as buyers or sellers in the future.

8/29/94 - NUCLEONICS WEEK, "Bonn Intelligence Boss Under Fire in Wake of Pu, HEU Sting Operations," Mark Hibbs, pp. 10-11.

According to investigative sources, the Columbian national who was arrested at the Munich Airport on August 10th allegedly sold a 0.5 gram sample of Pu-laden material to German undercover agents at a Munich safe house in late July. Analysis of this material by Euratom experts has indicated that it is identical to the MOX material confiscated in August at the Munich Airport, which contained 350 grams of plutonium.

8/29/94 - THE INTERNATIONAL HERALD TRIBUNE, "Bid To Curb Nuclear Smuggling Lags."

According to U.S. officials, a two-year U.S. effort to help keep Russian nuclear materials from falling into the hands of terrorists has not gotten off the ground primarily due to friction between highly-placed American officials and Russian nuclear experts. The officials claim that Russia's Ministry of Atomic Energy has repeatedly rejected offers of assistance out of pride and concern that cooperation with Washington will be criticized by Russian nationalists. Moreover, only $58 million of the $988 million earmarked by Congress to help diminish the nuclear threat posed by the former Soviet Union has actually been allocated to improving export controls or nuclear materials accounting. [See also THE WASHINGTON TIMES 8/19/94, p. A14.]

8/28/94 - ASAHI SHIMBUN (in Japanese), "Lax Storage of Nuclear Material and Theft Cited," p. 3.

In a recent interview, former Chief Inspector Kuznetsov of GOSATOMNADZOR said that the Russian Atomic Power Ministry does not have accurate information about how radioactive substances are stored and transported within Russia, and that considerable quantities of nuclear fuel remain unprotected from theft. Kuznetsov stated, "Russia does not yet have clear national policies for the safekeeping of radioactive substances. Moreover, Russia does not have a complete list of radioactive substances in the nation. Nuclear engineers are suffering from reduced wages, and they often do not receive wages as scheduled. These factors all benefit organized criminals."

8/27/94 - FBIS-SOV, "Estonian Wanted To Smuggle Uranium To West," originally from BERLINGSKE TIDENDE 8/27/94, in Danish.

Estonian police have arrested a man who apparently intended to smuggle 3 kg of uranium-238 -- which he had stored in the ground beneath his garage -- into Western Europe. Juri Ruus, Vice-Chancellor at the Estonian Interior Ministry, told BERLINGSKE TIDENDE that the nuclear material reportedly was smuggled into Estonia by two Russian citizens, who then turned it over to an Estonian living in Polva, along the Russian- Estonian border. The uranium's degree of enrichment allegedly was no higher than 2 to 3 %. The Estonian police said they received a tip-off from Russian authorities that some uranium stolen from a Russian military plant was bound for Estonia. [See also THE WASHINGTON TIMES 8/27/94, "Uranium Seized By Estonian Police," p. A7.]

8/27/94 - THE HINDU (from New Dehli, in English), "MPs See Threat to Indian Security," p. 5.

India is now approaching the governments of Russia and Germany regarding the issues surrounding the latest revelations of clandestine smuggling of nuclear materials bound for Pakistan. German authorities have taken a serious view of the nuclear smuggling, and India would like both Russia and Germany to keep it informed as to progress in investigations, given that this matter is of extreme concern to India and relates to Indian national security.

8/26/94 - YOMIURI SHIMBUN (in Japanese), "Tokyo Seeks To Prevent Plutonium Smuggling," p. 2.

In the wake of the recent seizure of weapons-grade plutonium in Germany, the Japanese government has begun to study measures aimed at preventing nuclear smuggling. Naotoshi Suiguchi, Councilor of the Foreign Ministry's General Diplomatic Policy Bureau, will go to Germany in early September to collect information. Japan has announced a plan to provide some $100 million in grants to the former Soviet republics to further their efforts to dismantle nuclear weapons. Japan supports denuclearization programs in these countries by helping them to establish their own concrete projects.

8/26/94 - DIE ZEIT (in German), "Care Was Neglected," p. 4.

According to author Wolfgang Hoffman, the German government could -- and should -- have adopted measures to prevent nuclear smuggling long ago based upon its own experience with the possible misuse of nuclear materials. Now, the Social Democratic Party's (SDP) call for the formation of a supervisory body modeled after the American Nuclear Emergency Search Team (NEST) is being met with similar neglect.

This nonchalance is in direct contrast with the panic displayed in Bonn and Moscow over the latest incidents. One SDP deputy with lengthy experience in the area of nonproliferation claims that the German government is taking advantage of the plutonium smuggling for election purposes, pressuring the lnder to vote for the law on combatting crime that was blocked by the Senate. This law includes a number of restrictive provisions, such as extended telephone bugging, which can hardly do anything to prevent the misuse of nuclear materials.

8/25/94 - NUCLEONICS WEEK, "Police and Media Stings Account For Germany's Plutonium Market, pp. 1ff.

While the German government has been asserting that it is facing the threat of nuclear smuggling from Russia, the Parliamentary Control Commission (analogous to U.S. Congressional Intelligence Oversight Committees) has said that the demand for plutonium and highly-enriched uranium so far consists solely of German reporters and undercover agents posing as buyers.

8/25/94 - ROSSIISKIE VESTI no. 159, "Kontrrazvedchiki gotovy presekat kontrabandu radioaktivnykh veschestv."

The text of the memorandum issued on August 22nd, at the conclusion of three days of talks between representatives of the Russian and German governments, has been officially distributed to journalists. The memorandum calls for utilizing all possible means to combat illegal circulation of nuclear and radioactive materials irrespective of their place of origin. The parties also agreed to cooperate in preventing radioactive substances from falling into the hands of terrorists or being used for the purpose of blackmail. [See also NEZAVISIMAYA GAZETA 8/25/94, p. 1.]

8/25/94 - NUCLEONICS WEEK, "Plutonium Seized In Germany Not From Weapons Inventories," pp. 11-12.

In contradiction to previous claims made by German criminal justice officials and politicians, the Germany Foreign Ministry has acknowledged that the 560 grams of plutonium-laden material confiscated earlier this month at Munich Airport was not diverted from a Russian nuclear weapons-related inventory. Because lithium-6 was seized along with the plutonium, some U.S. officials suspect that both substances originated from one of two laboratories that produce mixed-oxide fuel for experimental irradiation in fast reactors. [See also ROSSIISKIE VESTI no. 158, 8/24/94.]

8/25/94 - DIE WOCHE (in German), "IAEA: No 'Mandate' In Plutonium Trade," p. 18.

In this interview, IAEA Spokesman Hans-Friedrich Meyer states that the IAEA cannot assume any responsibility for the rise in illegal trade in radioactive materials. Most of the materials in question seem to come from the military sector, which does not fall under IAEA jurisdiction. The most important thing now, according to Meyer, is to seal the loopholes through which radioactive materials have been leaking, a task that should be handled by individual countries.

8/25/94 - IZVESTIYA, "Zaderzhany pokhititeli urana-238."
According to ITAR-TASS, Russian authorities have detained two men attempting to steal nearly 10 kg (22 lbs.) of low-enriched uranium-238 from the Arzamas-16 complex in central Russia. Investigation of the matter is now underway. [See also UPI 8/24/94, "Russian Police Seize Stolen Uranium"; REUTER, "Two Caught Stealing 10 kg Uranium in Russia"; ROSSIISKIE VESTI no. 160, 8/26/94; RUSSIA & CIS TODAY no. 0607 8/25/94, "Pokhischenie urana-238," p. 4; UPI 8/24/94, "Russian Police Seize Stolen Uranium"; and INTERNATIONAL REVIEW, "Is Nuclear Know-How Escaping from Russia?" Winter 1994-1995, p. 10.]

8/24/94 - RUSSIA & CIS TODAY no. 0604, "Neobkhodimo usilenie okhrany rossiiskikh iadernykh obyektov," p. 6, originally from NOVOSTI Television Program.
Nikolai Boldyrev of the Kurchatov Institute stated at a press conference that the center's existing security system needs to be revamped if it is to meet today's safety standards.

8/24/94 - ROSSIISKAYA GAZETA, "Zagadka plutoniya poka ne reshena," p. 1.
According to Sergei Stepashin, Head of the Russian Federation Counterintelligence Service, while the talks with German special envoy Bernd Schmidbauer did not clear up the origin of the plutonium-239 found in Germany, they were nonetheless very useful. As a result of the three-day talks, a memorandum was issued. Participants stressed that the atmosphere during the talks was relaxed and friendly, in sharp contrast to the accusatory tone adopted by the Western press. [See also FBIS-SOV 8/20/94 and 8/22/94; JPRS-TND 8/23/94; RUSSIA & CIS TODAY nos. 0610/0611, p. 19/p. 2.]

8/23/94 - THE WALL STREET JOURNAL, "IAEA Says Its Plutonium Threshold For Making Nuclear Bombs Is Too High," p. A4.
An IAEA spokesman has acknowledged that nuclear weapons can be manufactured with amounts of plutonium and enriched uranium that are smaller than the benchmarks established for inspections. Thomas B. Cochran, a physicist with the Natural Resources Defense Council, has stated that the IAEA's standards may exceed the amount of weapons-grade material need to build a nuclear bomb by as much as eight times, and that the quantities recently being smuggled out of Russia into Germany are "bumping up against" the real thresholds for making small nuclear weapons.

8/23/94 - RUSSIA & CIS TODAY no. 0601, "Torguyet li Kazakhstan iadernymi materialami?" p. 22, originally from SEGODNYA News Program.
According to eye witness accounts, the "delivery trucks" used for transporting radioactive materials (including uranium) have been going in and out of the nuclear facilities near Almaty with unusual frequency. The question therefore arises as to whether or not Kazazkhstan is engaged in nuclear materials trade.

8/23/94 - REUTER, "Bonn Says Russia Keen To Quash Nuclear Smuggling."
German Chancellery Ministry Officials have announced that Russia, while at first sending out conflicting signals, is now clearly determined to help Germany in the fight against nuclear smuggling. According to Chancellery Minister Friedrich Bohl, "Contrary to the impression we had when differences were aired publicly in Russia, the Russian side now clearly wants to cooperate. It will do all it can to have this roaming material taken off the market or blocked from ever being offered on the market." Bohl added that Bonn hopes to arrange for European and

international efforts to fight nuclear smuggling, along the lines of the bilateral deal recently worked out with Moscow.

8/23/94 - ROSSIISKAYA GAZETA, "Plutni vokrug plutoniya," p. 2.
According to this source, the scandal currently being trumpeted by the Western media in regard to smuggling of nuclear materials from Russia to Germany is completely unfounded. Analysis has shown that the contents of the container recently confiscated by police at the Munich airport could not have originated in the Russian Federation. The question therefore arises as to who is seeking to involve Russia in this affair, and with what aim. [See also SEGODNYA, "Plutonii: zaiavleniya rossiiskikh ofitsialnykh lits otlichayutsya krainei protivorechivostyu," p. 1; RABOCHAYA TRIBUNA 8/23/94, "Raz shum podnimet Zapad, znachit, eto emu vygodno," p. 1.]

8/23/94 - REUTER, "German Media Link Iraq, Basques To Nuclear Smuggling."
The German media have linked a series of nuclear smuggling incidents to the Iraqi government and Basque militants. A T.V. documentary cited anonymous sources as saying that German investigators were in possession of documents containing evidence that Iraqi President Saddam Hussein was trying to obtain weapons-grade nuclear materials on the European black market. According to yet another unconfirmed report in the newspaper BILD, the two Spaniards recently arrested in a sting operation have close ties with the Basque separatist group ETA. BILD quoted one unnamed investigator as saying, "If the ETA is really behind the deal, that means the terrorists have long since become involved in plutonium smuggling." Western security experts, on the other hand, have said that the end-customers for nuclear smuggling were more likely to be countries like Iraq, intent upon developing their own nuclear arsenals.

8/22/94-THE DAILY TELEGRAPH,"Aid Cut Threat Over Nuclear Smuggling," p. 9.
Germany has threatened to cut back its economic aid programs to Russia unless Moscow agrees to help combat the smuggling of radioactive materials from its top-secret facilities. The warning was delivered by German Finance Minister Theo Waigel in an interview with BILD AM SONNTAG. It appears to have been prompted by rejection, on the part of both MINATOM and the Russian Federal Counterintelligence Service, of the possibility that the plutonium samples which have been turning up in Germany in recent months originated in Russia.

8/22/94 - DER SPIEGEL (in German), "Lithium 6 Reportedly Also Found in Munich," pp. 18-25.
Experts from the European Institute for Transuranic Elements in Karlsruhe have discovered a tin of lithium, in addition to the 330 grams of plutonium, in the luggage of the three Lufthansa passengers from Moscow who were arrested upon their arrival in Munich. This finding has alarmed the government in Bonn, since lithium-6 is a key element used in making the atomic bomb.

8/22/94 - DER SPIEGEL (in German), "Schmidbauer Wants Law Changed to Help Combat Nuclear Trade," p. 24.
In an interview given to an unidentified individual, German Minister of State Bernd Schmidbauer has declared that he favors increasing the penalties for people who traffic in nuclear materials. He also said that changes should be made to the relevant laws in order to facilitate the work of the security services. Schmidbauer claims that Germany is not the center of the nuclear materials trade, stating that "the fact that two attempts to trade in illegal weapons-grade plutonium were discovered in Germany can be attributed to the vigilance of our security authorities."

8/22-28/94 - LA TRIBUNA DE ACTUALIDAD (in Spanish), "Germany Deceives 2

Spaniards To Halt Russian Nuclear Smuggling."

On August 10th, Julio Oroz of Spain and his Columbian partner arrived in Frankfurt on a Lufthansa flight from Moscow, only to discover that the buyer of their 300 grams of Pu was the German police themselves. According to the German secret service, several countries are interested in the black market for plutonium. [See also MOSKOVSKIE NOVOSTI no. 34, 8/21-28/94, p. 5.]

However, Director John Simpson of the nuclear research center at the University of Southampton questions whether these markets would exist if the German intelligence authorities were not acting as agents provocateurs. Dr. William Potter, Director of the Program for Non-Proliferation Studies at the Monterey Institute, notes that in the past the majority of the potential buyers were journalists trying to ascertain if it were true that one could obtain nuclear material in Russia.

8/22/94 - FBIS-SOV, "TV Program on Smuggling at Nuclear Plant," p. 74, originally from Mainz ZDF Television Network, 8/19/94.

A German report stated that 24 cases of beryllium were discovered in a Vilnius bank in May 1992 and that the Lithuanian Investment Bank was paid $20,000 for storing the beryllium. The report also stated that Lithuanian border checkpoints lack equipment for detecting radioactive materials.

8/20/94 - IZVESTIYA, "Izyat konteiner s radioaktivnymi veschestvami. Ostaetsya neyasnym -- s kakimi."

Police agents from St. Petersburg and Kaliningrad oblast have arrested a criminal group seeking to sell a container with radioactive materials. The exact contents of the container, however, remain unknown.

8/20/94 - KOMSOMOLSKAYA PRAVDA, "U radiatsii russkii sled?" p. 2.

For the past several days, the topic of illegally smuggled plutonium has been making newspaper headlines. The details of the most recent case in Germany are contradictory, at best. For example: it allegedly was known that the smuggler was carrying dangerous substances, so why was he allowed to board the plane in the first place? This matter -- along with the issue of the plutonium's origin -- will hopefully be clarified during the visit to Russia of German special envoy Bernd Schmidbauer. [See also MOSKOVSKIE NOVOSTI no. 34, 8/21-28/94, p. 1.]

8/20/94 - UNITED PRESS INTERNATIONAL, "Germany Gives Russia Plutonium Data."

A German delegation headed by secret services envoy Bernd Schmidbauer has presented Russia with data from lab analyses of the sample of plutonium-239 smuggled into the Munich airport last week. The official results of the Russian team's analysis have not yet been announced, but ITAR-TASS quoted "competent sources" as saying that Russian experts "expressed certain doubts" about the Russian origin of the plutonium. Mikhailov, the Federal Counterintelligence Service spokesman, told INTERFAX that the experts' comments led him to believe that the plutonium was "probably not produced in Russia." [See also REUTER 8/20/94, "Germans, Russians Hold Nuclear Smuggling Talks"; REUTER 8/22/94, "Germany, Russia To Swap Info On Nuclear Smugglers"; NUCLEONICS WEEK 8/18/94, vol. 35 no. 33, "Germany, Russia Clash On Gravity, Motives as Pu, HEU Smuggling Grows," pp. 1ff.]

8/20/94 - ROSSIISKAYA GAZETA, "Kakoi natsionalnosti plutoniya?" p. 1.

According to Georgii Kaurov, Information Director of Russia's MINATOM, it is commercial motives that fueled the dissemination of rumors about the Russian origin of the plutonium seized in Germany. In support of this statement, Kaurov quotes experts from the Los Alamos National Laboratory, who maintain that in terms of composition and purity levels, this plutonium

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8/20/94 - ASAHI SHIMBUN (in Japanese), "UK Engineer On Offer To Sell Him Plutonium."

A British engineering consultant has testified that he was personally approached by a senior Russian official trying to sell plutonium in the form of a five-pence coin. He said that the Russian suddenly pulled the plutonium sample out of a briefcase while they were dining at a Chinese restaurant. It was in the shape of a round disc, and measured about 2 centimeters in diameter. [See also DIE WOCHE 8/25/94, p. 17.]

8/20/94 - LE POINT (in French), "Official Terms Plutonium Issue German Propaganda."

Vladimir Tomarovsky, member of the Russian Federation Counterintelligence Service, states that there is currently no evidence that plutonium is being smuggled out of Russia, or that the plutonium sample recently seized in Germany originated in Russia. "This attitude of the German authorities," according to Tomarovsky, "is propaganda pure and simple." [See also RUSSIA & CIS TODAY nos. 0585/0586, 8/17/94, pp. 1/8, and no. 0594, 8/19/94, p. 3.]

8/20/94 - IZVESTIYA, "Pakistan's Need of Fissile Material, Expertise Noted," p. 3.

According to several Western radio stations, citing German sources, the plutonium recently seized from smugglers by the Munich police was intended for shipment to Pakistan. It remains unclear whether this report was based on data from official investigations or is merely one of the journalistic versions of the story.

8/20/94 - KRASNAYA ZVEZDA, "Intsident s plutoniem: izbytok emotsii pri nedostake faktov," p. 2.

According to this source, Russia must not underestimate the seriousness of the recent incidents of plutonium smuggling in which it is has been implicated. Instead, Russia should seek seriously and rationally to address the issue, putting aside the sensationalist accounts and fabrications currently inundating press reports.

8/19/94 - NEW YORK TIMES, "Russians Suspect 3 Sites As Source Of Seized A-Fuel," William J. Broad.

On 8/18/94, U.S. nuclear experts stated that Russian atomic-energy officials are investigating three facilities that could be the origin of the weapon-grade nuclear materials confiscated in Germany. Dr. Alexander De Volpi, a physicist at the Argonne National Laboratory in Illinois, had been informed of the investigations by Minatom officials. According to De Volpi, Russia is investigating Chelyabinsk-65, the Bochvar Institute of Inorganic Materials in Moscow, and the Institute of Atomic Reactors in Dimitrovgrad.

8/19/94 - REUTER, "Russian Official Admits Nuclear Smuggling," Konstantin Trifonov.

The deputy head of the northwestern section of Gosatomnadzor, Sergei Novikov, issued the first Russian admission that security at Russian nuclear facilities is lax and that it is not unusual for Russian nuclear materials to be stolen. A spokesman for the Russian atomic energy ministry, however, asserted that it had checked its stockpiles of nuclear materials under an order of President Yeltsin, and found that no weapons-grade nuclear material was unaccounted for.

On 8/18/94, St. Petersburg officials stated that three Russians were arrested while attempting to sell a 60 kg (130 pound) container of radioactive material in Kaliningrad. According to nuclear energy ministry officials, the container was a piece of geological equipment which utilized radioactive material. [See also ROSSIISKIE VESTI no. 157, 8/23/94, p. 3.]

8/19/94 - RFE/RL NEWS BRIEFS vol. 3 no. 33, "Roundup On Nuclear Smuggling," p. 4, originally from NOVOSTI Television Program.

According to Chancellor Helmut Kohl's chief aide, Friedrich Bohl, German-Russian relations have not been harmed by the ongoing row over the origin of the weapons-grade material recently confiscated by the Munich police. The German Chancellor allegedly welcomes Russian President Boris Yeltsin's willingness to discuss the problem of nuclear smuggling with Western leaders as a positive development. Sergei Stepashin, chief of the Russian Counterintelligence Service, has also stated that his agency is ready to cooperate with its Western counterparts in related investigations.

8/19/94 - REUTER, "U.S. And Europe At Odds Over Seized Plutonium," Michael Christie.

Although German officials have stated that some of the seizures of smuggled nuclear materials involved plutonium-239 and highly-enriched uranium, an anonymous senior U.S. official stated that U.S. analysis of the material shows that the material did not come from nuclear weapon-related activity. European experts claimed that the 6 gram sample of plutonium-239 confiscated from the garage of German businessman Adolf Jaekle in 5/94 was "99 percent weapons-grade" and originated with the Russian military complex. Cologne's EXPRESS Newspaper reported that Jaekle worked for North Korea. [See also THE NEW YORK TIMES 8/17/94, "Experts in U.S. Call Plutonium Not Arms-Level," pp. A1, A4.]

8/19/94 - RUSSIA & CIS TODAY no. 0592, "Prodazha radioaktivnykh veschestv v Rossii," p. 19, originally from SEGODNYA News Program.

Three people have been arrested in Kaliningrad for attempting to sell a container of radioactive materials for $1 million dollars: one of the directors of the BALTAREX company, a security officer from this same firm, and an unemployed individual. The situation is currently under investigation.

8/19/94 - ASSOCIATED PRESS, "Germany-Nuclear," Arthur Allen.

German police and researchers have stated that of the 276 nuclear smuggling cases recorded in Germany since 1992, almost all of the cases have been sting operations, including two of the three seizures of weapons-grade nuclear material this summer.

According to German news reports, either North Korea or Iraq could have been the countries that wanted the weapons-grade nuclear material seized in the garage of Adolf Jaekle on 5/10/94.

On 8/12/94, at a Bremen train station, a Hamburg journalist pretending to be an undercover policeman bought a plutonium sample from Michael Popow, an undercover federal agent working with the Hamburg state police. Hamburg police stated that Popow did not work for them and the federal interior ministry denied that Popow worked for the federal police. Popow was released on 8/17/94.

8/19/94 - REUTER, "India Says Pakistan Behind Nuclear Smuggling."

India stated that the German seizure of [Russian] plutonium and the evidence linking Pakistan to plutonium shipments discovered during police raids on 8/17/94 in Berlin confirms India's belief that Pakistan is attempting to secretly import materials for building nuclear weapons. An Indian Foreign Ministry spokesman stated, "This only goes to confirm what we have repeatedly said, that Pakistan has a clandestine nuclear programme and continues to acquire, through questionable means, such material as is necessary for such activity." [See also JPRS-TND 9/8/94, "Dangerous

Repercussions of Nuclear Smuggling Noted," p. 21, originally from JANSATTA 8/20/94, in Hindi.]

8/18/94 - REUTER, "Pakistan Denies Involvement In Nuclear Smuggling."
The government of Pakistan denied German accusations that it is involved in attempting to smuggle plutonium out of Germany. The Pakistani Foreign Ministry stated, "We note that no arrests have been made and no radioactive material seized, but yet a 'suspicion' has been voiced. We categorically deny that any agency of the government of Pakistan has attempted to acquire the plutonium."

8/18/94 - NEW YORK TIMES, "Russian Controls on Bomb Material Are Leaky," pp. A1, A8, Michael R. Gordon and Matthew L. Wald.
Following the seizure of smuggled plutonium in Germany and German accusations that the plutonium originated in Russia, Viktor Mikhailov, the head of the Russian Ministry of Atomic Energy (Minatom), has stated that the accusations are a plot to discredit Russia's nuclear establishment and that Russia is being blamed without proof. Many Russian and U.S. experts believe that Russia's checks are so uncertain and that its nuclear establishment is so wide-spread, it is impossible to know whether nuclear materials have been lost or stolen.

Oleg Bukharin, a Russian physicist, stated, "Probably the most deficient component of MINATOM's safeguards is the system of material control and accounting."

The theft of plutonium and highly enriched uranium located at Russia's research centers is a greater potential threat than the theft of nuclear warheads because security is greater at military facilities. Experts also fear that scientists at the research centers are not paid well and could be susceptible to taking bribes.

8/18/94 - JPRS-TND, "Premier Denies Uranium Being Sold Secretly to Third World Countries," p. 47, originally from Moscow Russian Television Network 7/28/94.
IAEA Director General Hans Blix has visited the Semipalatinsk testing ground and met with Kazakhstan's Prime Minister, which led to the signing of a treaty on guarantees. At the news conference following the meeting, Kazakh Prime Minister Sergei Tereschenko resolutely denied allegations that Kazakh uranium is secretly being sold to Third World countries.

8/18/94 - REUTER, "Germany Sees Third World Behind Nuclear Smuggling," Tom Heneghan.
During police raids on seven apartments in Berlin on 8/17/94, police seized no radioactive materials and made no arrests. According to a spokesman for Berlin's justice ministry, Frank Thiel, police discovered documents implying "that plutonium has been transported to Pakistan or that a transport was about to be made." Police did question a Pakistani, two Poles and a German and subsequently released them. A spokesman from Pakistan's embassy stated, "This has come as a complete surprise to us. We have nothing to do with this."

An aid to Chancellor Helmut Kohl, Bernd Schmidbauer, stated, "There have been about 300 seizures of such nuclear material in many countries in Europe, the least of all in Germany."

8/18/94 - ROSSIISKAYA GAZETA, "Who Gains From Fuss Over Plutonium?" p. 6.
Official spokesmen for Russian departments and nuclear specialists are denying the "unfounded accusations" that nuclear materials have been exported from Russia. According to Yevgenii Mikerin, Russian Federation Deputy Minister for Atomic Energy, "That is sheer provocation. Of all cases of the so-called 'leakage' of Russian nuclear materials reported by the Western press so far only one has been confirmed... By persuading the

whole world that there is no proper control at Ministry of Atomic Energy enterprises the West is trying to foist its aid onto us in constructing new storage facilities and the establishment of its own control system. And that means orders worth many millions for the supplying firms." [See also RFE/RL NEWS BRIEFS 8/16-19/94, "Russia Denies Nuclear Smuggling Charges," p. 2.]

8/18/94 - REUTER, "British Consultant Offered Plutonium -- Newspaper."
THE TIMES reported that senior Russian nuclear officials had offered a British engineering consultant, John Large, trade in uranium and plutonium. Large stated, "I was asked if I knew any Western company who would want nuclear material. . . .They were senior plant people, nuclear scientists who saw this as a legitimate way of making money." According to Large, the blackmarket price for plutonium is thought to be about $250,000 to $500,000 per kilogram (2.2 pounds).

8/18/94 - MOSKOVSKII KOMSOMOLETS, "Germaniya: iadernye strasti nakaliaiutsia," p. 1.
On 8/13/94, German police announced that, for the third time in 1994, they have seized weapons-grade nuclear material which was smuggled into Germany from the former Soviet Union. On 8/10/94, Bavarian state police seized an undetermined amount of plutonium in Munich on a Lufthansa flight from Moscow and arrested two Spaniards and a Colombian. The amount of plutonium confiscated on 8/10/94 was at least 10 times greater than the amount of plutonium seized earlier in the year. According to the German magazine DER SPIEGEL, German intelligence believes that this smuggling operation could have been organized by Libyan, Iranian, or Iraqi diplomats. [See also LOS ANGELES TIMES 8/14/94, "Police seize weapons-grade plutonium in Germany."]

8/18/94 - UNITED PRESS INTERNATIONAL, "Russian Arrests Alleged Nuclear Traders."
On 8/12/94, police in St. Petersburg arrested three men who were attempting to sell 132 pounds (60 kg) of unidentified radioactive materials to a St. Petersburg resident for $1 million. The three men were from Kaliningrad. [See also JPRS-TND 9/8/94, "Ministry Tells AFP of Arrests of Nuclear Smugglers," pp. 28-9.]

8/18/94 - RFE/RL NEWS BRIEFS vol. 3, no. 33, "Yeltsin Promises Cooperation; US Reacts To Nuclear Smuggling," p. 3, originally from NOVOSTI Television Program.
In a letter to German Chancellor Kohl, Russian President Boris Yeltsin has offered Moscow's cooperation in investigating the source of the contraband nuclear materials recently seized in Germany. This letter is reported to be the first direct offer of assistance from the Russian government. In the meantime, US Secretary of Energy Hazel O'Leary has stated that her department is "intimately involved" with Bonn in attempting to determine the source of the materials and warned against sensationalizing the issue. According to Secretary O'Leary, Washington respects Moscow's ability to make the necessary decisions on its own.

8/18/94 - UNITED PRESS INTERNATIONAL, "Unknown State Sponsors Nuclear Bomb."
A German parliamentary control commission was informed that German businessman Adolf Jaekle, who was arrested in May with 6 grams of plutonium-239 in Tengen, had a $100 million contract with an unknown country to buy enough fissile material with which to make a nuclear bomb. The television station ARD stated that the plutonium originated from the Kurchatov Institute in Moscow. [See also RUSSIA & CIS TODAY no. 0595, 8/22/94, p. 12 and no. 0604, 8/24/94, p. 2.]

State Justice Ministry spokesman Frank Thiel stated that German police believe that, following a raid in Berlin, they have discovered a plot to send nuclear materials to Pakistan. Concerning the Munich seizure of plutonium, German State Prosecutor Dieter Emmrich stated, "There are no clues concerning a connection with other plutonium finds (in Germany) nor that former KGB or Stasi (former East German secret police) members are the ringleaders."

8/17/94 - THE WASHINGTON POST, "Stolen Plutonium Tied To Arms Labs; German Scientists Trace Origin Of Nuclear Materials To Russia," Steve Coll.

Western scientists have determined that the nuclear materials smuggled into Germany originated in Russian military nuclear facilities. The evidence indicates that none of the nuclear materials have come from dismantled nuclear warheads.

Lab work on the 12 to 14 ounces of plutonium-239, confiscated in powder form from two Spaniards and a Colombian at the Munich airport, indicates that the plutonium was 87.2% enriched and that 10% of it was actually plutonium-240.

Of the plutonium discovered in German businessman Adolf Jaekle's garage in May, one-fifth of an ounce was 99.7% pure plutonium-239. A paper written by a Russian nuclear physicist from Arzamas-16, N.V. Polynov, and presented in Santa Fe, New Mexico conference in 9/93, described how the Arzamas-16 lab was able to separate small amounts of very pure plutonium-239. Officials stated that these samples were then distributed to other facilities. Although investigators currently assume that the plutonium discovered in Jaekle's garage was from Arzamas-16, the plutonium could in fact have come from a sample produced at Arzamas-16 and then sent to another Russian nuclear facility.

Russian officials have told the IAEA that during the summer of 1993, a theft of 6.6 pounds of weapons-grade uranium had been prevented in St. Petersburg.

8/17/94 - REUTER, "Bonn Wants Euro-Police To Thwart Nuclear Smugglers."

German Foreign Minister Klaus Kinkel has proposed that EUROPOL, the fledgling European police agency, be used as a clearinghouse for information on nuclear smuggling involving the former Soviet Union. Concomitantly, another Germany official, Chancellery Minister Friedrich Bohl, has been calling for granting wider powers to Germany's spies in order to combat nuclear smuggling.

The Hague-based EUROPOL -- which is completely independent of INTERPOL -- went into operation last January, and is being used by European police forces as a clearinghouse for information on drugs smuggling. Foreign Minister Kinkel, whose country is the current president of the European Union, has said that he intends to raise this issue at the informal gathering of EU foreign ministers to be held on September 10-11.

8/17/94 - DDP/ADN in German, "Chernobyl Official Comments on Plutonium Discoveries."

In an interview with the Hamburg newspaper DIE WOCHE (8/18 issue), Vladimir Chernosenko, former director of the Chernobyl cleanup, has stated that recent incidents of plutonium smuggling from Russia to Germany are only the tip of the iceberg. "If the economic situation in Russia does not improve soon, which I don't think will happen," says Chernosenko, "then in future there will be exports of nuclear material carried out by people at the highest rank." Nor does Chernosenko believe that efforts by the FBI and the German Federal Intelligence Service have any chance of success: "In Russia, this sector of industry was traditionally controlled by the KGB. Now that these structures have collapsed, there are no longer any controls." [See also FBIS-SOV 8/17/94, "Expert Says 'Official Bodies' Involved In Plutonium Affair."]

8/16/94 - NEW YORK TIMES, "Germans Suspect Russian Military In Plutonium Sale," pp. A1, A6, by Craig R. Whitney.

German officials stated that members of Russia's security services were involved in the smuggling case in which 300-350 grams (10.6-12.3 ounces) of 87 percent pure plutonium-239 was seized at the Munich airport from a flight that had arrived from Moscow. The Colombian that had been arrested at the airport with the plutonium, Justiniano Torres, lived and studied in Russia.

Undercover German police first made contact with Torres's group on July 25, 1994. At that time, Torres promised that he could provide 8.8 pounds of plutonium for $250 million and gave the police a sample. Under analysis, the sample proved to be .24 grams of 86-87 percent pure plutonium-239 combined with uranium-238.

At a second meeting with the group, they provided the police with a 200 gram (7.1 ounce) sample of lithium-6 and stated that Torres would be arriving on a Lufthansa flight with 500 grams (1.1 pounds) of plutonium. German police arrested Torres at the airport with a cylinder containing 560 grams of a powdered material, of which 300-350 grams was the plutonium-239.

8/16/94 - SEGODNYA, "Panika iz-za plutoniya" and "MINATOM RF otritsaet prichastnost Rossii k kontrabande plutoniya v Germaniu."

Russian officials stated there was no evidence proving that the 100 to 300 grams (3.5 to 10.5 ounces) of plutonium-239 seized in Germany last week came from a Russian nuclear plant, but Russia will assist Germany in its investigation of the plutonium's origin. The Russian Atomic Energy Ministry claims that there have been no thefts of plutonium 239. [See also KOMSOMOLSKAYA PRAVDA 8/17/94, "Iadernyi chemodanchik 'zasvetilsya v Bonne," p. 1; ROSSIISKAYA GAZETA 8/17/94, p. 6; NEZAVISIMAYA GAZETA 8/18/94, pp. 1-2.]

8/16/94 - NEW YORK TIMES, "Russia Denies Nuclear Material Is Missing," Steven Erlanger.

Russian officials have stated that they have about 50 cases pending that concern the theft of low-grade radioactive materials from medical centers and welding machines. Russian officials have said that no weapons-grade nuclear materials are missing.

8/16/94 - UNITED PRESS INTERNATIONAL, "IAEA Alarmed By German Nuclear Seizure," Adriana Pontieri.

German officials have stated that the plutonium seized from a Russian flight into Germany was diverted by "corrupt officials and underpaid scientists."

8/16/94 - IZVESTIYA, "Indiscriminate Accusations Over Plutonium Find Criticized," p. 3.

Chancellor Helmut Kohl has urged Moscow to stop the illegal export of radioactive materials from Russia. Yet, according to Yuri Kabaladze of Russia's Foreign Intelligence Service Press Bureau, Russian intelligence has yet to find concrete and reliable information about the origin of the contraband uranium seized in Germany. To all appearances, says Kabaladze, Russia has nothing to do with this uranium and has essentially become the victim of the Western press. A MINATOM official adds, "Why is it that, without going out of their way to link into things, the police and other competent bodies in the FRG are accusing Russia of tolerating a steady outflow of radioactive materials?... In our view, indiscriminate reproaches made against Russia are unfounded."

8/16/94 - EXECUTIVE NEWS SERVICE, "German Police Uncover Third Plutonium Smuggling Case," originally in REUTER, Harald Schultz.

German authorities in Bremen arrested a German man with a sample of less than two grams (.07 ounces) of plutonium.

A German undercover police agent has stated that former East German army intelligence officials were utilizing their contacts in the former Soviet Union to turn Germany into the headquarters of an international "nuclear mafia."

Greenpeace nuclear expert Dmitri Tomatsky stated that the plutonium-239 seized by Bavarian police on a flight from Moscow was most likely from one of three Russian plants: Mayak near Chelyabinsk, Krasnoyarsk, or Tomsk. These smugglers were also offering lithium-6 for sale, a material used to make neutron bombs. [See also THE NEW YORK TIMES 8/17/94, "Germans Seize More Weapons Material," p. A4.]

8/15/94 - UNITED PRESS INTERNATIONAL, "Germany Insists Smuggled Plutonium From Russia," Guy Chazan.

A Bavarian environmental official stated that the plutonium seized on the Lufthansa flight in Munich from Moscow was so pure that it was most likely stolen from a Russian weapons production facility and not a nuclear power station. [See also REUTER 8/15/94, "Germany Insists Smuggled Plutonium Is From Russia," Kevin Liffey."]

8/15/94 - NUCLEAR FUEL, "German Police Find 800 Milligrams HEU, Say It May Be Sample Of Larger Inventory," Mark Hibbs.

On 8/12/94, the Bavarian Crime Office (LKA) announced that in mid-June, it had seized in Landshut 800 milligrams of highly-enriched uranium-235, which had been enriched to 87.7%. According to German officials, the seized uranium was only a sample of a larger amount that had originated in the former Soviet Union. A Euratom organization in Karlsruhe, the Transuraniun Institute, analyzed the seized uranium and found that its intended use is for either a submarine or a research reactor.

Using information from the uranium smugglers seized in mid-June, a German undercover agent bought 600 grams of UO2 pellets, which had been enriched to 3%, from a Czech man at a roadside rest stop near Landshut. The UO2 pellets had been driven into Germany from Prague. The Czech, who was arrested in Germany, had been given the UO2 pellets by four Slovak men.

8/15/94 - RUSSIA & CIS TODAY no. 0583, "K Voprosu o kontrabande rossiiskogo plutoniya v Germaniyu," p. 19, originally from NOVOSTI News Program.

The scandal surrounding the illegal export of plutonium and uranium from Russia to Germany has now developed to the point that German Chancellor Kohl has personally asked President Yeltsin to improve safety at nuclear facilities. The recent arrest of three passengers on board a flight from Moscow to Munich, with 100 grams of plutonium-239 in their possession, has been the object of particular attention. However, MINATOM spokesman Georgii Kaurov has stated that there has been no diversion of either plutonium-239 or uranium-235 from nuclear facilities in the Russian Federation. [See also IZVESTIYA 8/16/94, p. 3.; SEGODNYA 8/16/94, p. 2; WELT AM SONNTAG 8/21/94, pp. 1-2.]

8/15/94 - NUCLEAR FUEL, "Russian Data Suggests Seized PU Was Enriched By Arzamas-16 Calutron," Mark Hibbs.

According to information from Russian sources, the 6 grams of plutonium confiscated in Germany in May had been diverted from a small inventory of P-239, which had been enriched at Arzamas-16 using a electromagnetic mass separator (calutron).

8/15/94 - EXECUTIVE NEWS SERVICE, "Germany Fears It May Be Market-Place For 'Nuclear Mafia,'" originally from REUTER, Kevin Liffey.

Guenter Beckstein, the Bavarian Interior Minister, stated that since the 1991 collapse of the Soviet Union, there has been 123 instances of smuggling involving radioactive material. Erwin Marschewski, the parliamentary internal affairs spokesman for Chancellor Helmut Kohl's Christian Democratic Party, has stated that there have been 267 cases of smuggling radioactive material.

8/14/94 - MOSKOVSKIE NOVOSTI, "Kakoi period poluraspada u ocherednoi sensatsii?"

On 8/15/94, a spokesman for the Russian Counter-Intelligence Service, Vladimir Tomarovsky, stated that the 6 grams of plutonium seized in May from German businessman Adolf Jaekle was from Bulgaria, not Russia. [See also THE WASHINGTON POST, "Russia Scoffs At Alarm In West Over Nuclear Thefts," Lee Hockstader.]

8/14/94 - THE LOS ANGELES TIMES, "Police seize weapons-grade plutonium in Germany," Marjorie Miller.

Since the collapse of the Soviet Union, German authorities have dealt with 250 cases that concerned the smuggling of radioactive materials. All but three of the cases were "scams," involving "fake bomb material."

8/14/94 - THE NEW YORK TIMES, "Germans Seize 3d Atom Sample, Smuggled by Plane From Russia," Craig R. Whitney.

On 8/10/94, Germany seized up to 500 grams of plutonium at the Munich international airport from a Lufthansa flight that had arrived from Moscow.

8/12/94 - THE NEW YORK TIMES, "A Second 'Sample' Of Atomic Material Found in Germany," Craig R. Whitney.

German police announced that on 6/13/94, German authorities had seized, for the second time, weapons-grade uranium-235, which had allegedly originated in Russia. German authorities seized .028 ounces of uranium-235 in Landshut, Bavaria, and arrested five Czech or Slovak men and one German woman. The Bavarian Interior Minister Gnther Beckstein stated, "The latest discovery in Landshut shows that international organized crime - a real atomic mafia - is at work here." German officials fear that former Russian KGB officers are obtaining the weapons-grade material and giving it to criminal groups to sell abroad.

German police do not believe that the uranium seized in Landshut is connected to the plutonium seized in 5/94 from German businessman Adolf Jaekle. Russian officials have denied that the plutonium confiscated in May came from Russia.

German police in Bavaria announced that they had also confiscated 21.2 ounces of uranium pellets, which cannot be used to make bombs, from a Czech man near Munich on 7/4/94.

Police stated that there have been 123 cases of smuggled radioactive material from former communist countries into Germany during the last year. The cases involve mostly cesium or uranium used by industry or hospitals. [See also DIE WELT 8/12/94, "Six Uranium Smugglers Arrested in Bavaria."]

8/10/94 - REUTER, "Truck With Nuclear Waste Detained in Hessen."

Hessian authorities have detained a truck carrying metal pipes contaminated by radiation. The Ministry of the Environment in Wiesbaden has announced that the cargo originated in Eastern European countries. The truck, which was spotted at a recycling center in Lithuania, came from Lithuania. The question of whether or not the cargo also originated there is still under investigation.

8/8-12/94 - RFE/RL NEWS BRIEFS, "Police Discover Radioactive Materials On Passenger Train," p. 4.

According to ITAR-TASS, the Russian Transport Police has intercepted a sample of radioactive cesium on a Moscow-Samara passenger train. About two kilograms of radioactive cesium rods were discovered in luggage belonging to a resident of Mordovia, which is the site of numerous military-industrial complex facilities. The police have stated that the radioactivity level of the cesium rods is 25 times higher than admissible standards.

8/5/94 - RFE/RL Daily Report, "Romanian Police Seize Enriched Uranium;" in DOE Monthly Summary, August 1994.

On August 4, 1994, Romanian police announced that they arrested five people and seized a package weighing 3 kg, which contained 538 tablets of enriched uranium. According to the police, the uranium, which was seized near Timisoara, originated in Ukraine.

8/4/94 - NUCLEONICS WEEK, "German Suspect in Plutonium Theft Offers Data in Plea Bargain Gambit," Mark Hibbs.

Adolf Jaekle, the German businessman implicated in the smuggling of a small amount of Russian weapons-grade plutonium last month, has allegedly offered to disclose the whereabouts of more stolen plutonium and highly-enriched uranium in Germany, Switzerland and Austria on condition that he be released from jail and charges against him dropped. Jaekle had previously denied all involvement in the case , claiming to be unaware that a Swiss business contact had passed the radioactive material on to him.

Last week, however, it came out that on July 20th Jaekle gave additional information to Bernard Schmidbauer, intelligence coordinator for Chancellor Helmut Kohl. He reportedly named both Austria and Switzerland as hosting about 60 grams of enriched plutonium as well as undisclosed quantities of highly-enriched uranium, and offered to provide a list of potential buyers of the stolen fissile material. [See also DER SPIEGEL 8/1/94, pp. 61-3; VESTNIK CHERNOBYLYA 8/94, no. 53, p. 3.]

8/4/94 - RUSSIA & CIS TODAY, "Rossiiskaya sluzhba kontrrazvedki uverena, shto iz Rossii net utechki iadernykh materialov," p. 15, originally from SEGODNYA NEWS PROGRAM 8/3/94.

A spokesman for the Russian Counterintelligence Service has firmly denied that the plutonium-239 confiscated in Germany originated in Russia. He added that to date, counterintelligence agents have not encountered a single instance of diversion of weapons-grade nuclear materials.

8/2/94 - IZVESTIYA, "Rossiiskaya iadernaya mafiya pri blizhaishem rassmotrenii okazalas bolgarskoi," p. 3.

Despite the official denial issued by the German Chancellor's Office, rumors about the Russian origin of the plutonium-239 accidentally discovered by German police continue to grow, augmented by an abundance of false information. In actuality, the trail leads not to Russia but to Bulgaria: Jaekle, the accused, has stated that he received his "goods" from one Mitko M., a Bulgarian citizen who reportedly sells nuclear materials through the firm known as KINTEX. [See also UNITED PRESS INTERNATIONAL 8/16/94, "U.S. Conveys Nuclear Concerns To Russia."]

7/28/94 - NUCLEONICS WEEK, "Bern Authorities Fail to Find Any Stolen Russian Plutonium."

According to investigative sources, federal authorities in Switzerland have searched "about five or six locations" for the 120 - 150 kg of plutonium-laden material which German law enforcement officials suspect may have been transported there illegally from Russia -- but thus far the search has proven to be in vain. The Swiss police reportedly were acting on a request from German authorities in searching these locations, which are said to include the Zurich airport and the GLOBUS freight company. Bern appears hesitant to pursue the matter unless the German side provides further evidence.

7/25/94 - NORDDEUTSCHER RUNDFUNK (in German), "Russian Allegedly Experimenting With New Nuclear Bomb."

Russia reportedly is experimenting with a new type of nuclear bomb. This inference is made from the 6 grams of supergrade plutonium confiscated in Germany in May. This plutonium is said to be suitable for building small bombs having considerable power and a long storage life. Moreover, the fact that gallium had been added is cited as an indication that the material was used in a series of military tests.

7/23/94 - FINANCIAL TIMES, "Plutonium find adds to nuclear smuggling fears," p. 22, Jimmy Burns, Michael Lindemann, Leyla Boulton.

According to a senior European Union official, scientists recently established that one-tenth of the 6 g of plutonium confiscated by German police in Tengen in May contained highly-enriched plutonium-239. U.S. scientists and Western intelligence agencies believed that the plutonium may have been stolen from the Kurchatov Institute or Sverdlovsk-44 in Russia.

7/22/94 - REUTER, "Seven Detained in Turkey With Uranium Haul."

Turkish police have detained seven Turkish suspects and confiscated 12 kilos (26.45 pounds) of uranium, having a total value of about $853 million, according to officials from the Istanbul office in charge of financial crimes. The uranium reportedly was smuggled into Turkey from an unidentified country in the former Soviet Union.

7/21/94 - NUCLEONICS WEEK, "Balkan Agents Smuggled Russian Pu Into Europe, German Sleuths Say," pp. 14-15.

According to German investigative sources, the Bulgarian state trading company KINTEX brought a sample of Russian weapons-grade plutonium from Varna to Athens and thence to Germany, possibly with the intention of selling it to Iraqi buyers. The Balkan agents reportedly claimed that they could deliver over 100 additional kg of plutonium-rich material.

Earlier this year, German police confiscated about 62 grams of radioactive material in an apartment in Tengen, near Konstanz. Analysis carried out by the European Transuranium Institute in Karlsruhe revealed that about 6 grams of the powder was nearly-pure plutonium-239, which had most likely been enriched by special isotope separation techniques in a gas centrifuge cascade. On July 20th, U.S. government technical experts told NUCLEONICS WEEK that they concurred with the results obtained by European analysts. U.S. officials maintain, however, that the plutonium-laden material was diverted from specific weapons-related laboratories rather than from the large-scale production facilities at Chelyabinsk, Tomsk or Krasnoyarsk. [See also FOCUS no. 30, 1994, "Fatal Chain Reaction on the Black Market for Plutonium, with a Bulgaro-Iraqi Connection."]

7/18/94 - NUCLEAR FUEL, "Pu-239 Stolen From Russian Lab Was Weapons-Enriched In Centrifuge Plant," Mark Hibbs.

Information collected by Western agencies in the case of the weapons-grade plutonium confiscated in Germany indicates that several Russian and Eastern European nationals were trying to sell the plutonium sample to an Iraqi agent, whose identity is known to the German Customs Intelligence Agency (Zollkriminalamt). Sources also say that KINTEX, the Bulgarian commercial organization involved in the case, has close links to the KGB and has engaged in weapons transactions along with Iraqi procurement organizations.

According to Western officials, the German government is certain that the plutonium was stolen from a research facility in the former Soviet Union -- perhaps a nuclear weapons-related laboratory near Moscow, or the Institute of Physics & Power Engineering in Obninsk. Enrichment of the material, however, was most likely carried out elsewhere: at a small gas centrifuge cascade at the Kurchatov Institute in Moscow, or at the enrichment facility in Sverdlovsk-44.

7/18/94 - WEST EUROPE INTELLIGENCE REPORT, "Russians Question Origin Of Plutonium."

According to a spokesperson for the Russian Federal Counterintelligence Service, Moscow remains doubtful that the plutonium confiscated in Germany in May was of Russian origin. The spokesperson acknowledged that there had been attempts at theft from Russian nuclear facilities, but stated that nothing had actually been stolen.

7/18/94 - DER SPIEGEL no. 29, "Discovery 13: Red Alert," pp. 18-22.

Scientists are terrified: for the first time, weapons-grade plutonium from a Russian weapons production facility appears to have surfaced on the black market. Police discovered a sealed cylinder in the farming village of Tengen-Wiechs, in the garage of businessman Adolf Jkle. Analysis of the cylinder's contents revealed that the substance was plutonium-239 with a purity of 99.7% -- i.e., "super grade" weapons material. Euratom experts attempting to pinpoint the plutonium's origin say that it could have come from Chelyabinsk-65, Tomsk-7 or Krasnoyarsk-26. While the quantity of material found in the garage -- 6 grams -- is not enough to make a bomb, researchers believe that an additional 150 kg of weapons-grade plutonium may be hidden somewhere. [See also IZVESTIYA 7/20/94, p. 3; THE WALL STREET JOURNAL 7/18/94, p. A6.]

7/13/94 - JPRS-TND, "Red Mercury Smuggler Claimed to Have Accompanied Vacaroiu," "Police Investigate Illegal Sale of Uranium Pellets," "Daily Views Radioactive Materials Traffic," pp. 23-5.

According to this source, certain Romanian firms (ROMBEL, SIRCOM, TECHNOTOURS) reportedly are engaged in trafficking radioactive materials -- primarily red mercury -- in conjunction with a number of Russian and Italian companies.

7/13/94 - JPRS-TND, "Moldovan Police Intercept Radioactive Cargo From Russia," p. 43.

Moldovan police have confiscated a container with gamma cobalt-60 and detained one Russian and two Moldovans on the grounds that they attempted to smuggle the radioactive material out of Russia and into Moldova. They reportedly intended to sell the substance for $20,000. Officials have said that a Romanian citizen is suspected of being the intended customer for the cobalt, but that there is insufficient evidence to arrest him. Experts from the Moldovan Academy of Sciences are trying to determine to what use the cobalt was to be put.

7/12/94 - POLYARNAYA PRAVDA, "Pochem banochka rtuti?" p. 1.

Three uranium-bearing fuel rods belonging to Russia's Northern Fleet -- the theft of which rocked Murmansk oblast last November -- have finally been located. According to this source, a trio consisting of a policeman, an independent "businessman" and an officer in the Northern Fleet were conspiring to provide uranium to a wealthy Swedish buyer who allegedly was offering six million dollars for one kilogram of the substance.

7/8/94 - NEUE ZURICHER ZEITUNG, "Plutonium Trader Arrested at the Border Near Lindau."

The Bavarian border police has arrested a long-sought plutonium trader, originally from the former Yugoslavia but now living in Chicago as an American citizen. He is accused of having smuggled several hundred metal containers of plutonium, with a total value of 18 million marks, from Austria to Germany two years ago.

7/6/94 - ROSSIISKIE VESTI, "Interview with Sergei Stepashin," p. 2.
According to Director Sergei Stepashin, "The Federal Counterintelligence Service supported the Russian president's edict on combating banditry exclusively in the interests of investigation, and not merely to bolster its own status." He went on to say that he is in favor of "violating a person's rights if that person is a criminal." Stepashin also denied that the Russian mafia has access to nuclear technology, saying that the FBI's interest in this issue might simply reflect their desire to bring Russian nuclear facilities under U.S. control. [See also FBIS-SOV 7/8/94, pp. 14-5.]

7/5-8/94 - RFE/RL NEWS BRIEFS vol. 3 no. 28, "Counterintelligence Discovers Stolen Uranium-238," pp. 3-4, originally from NOVOSTI Television Program.
On July 6th, the ITAR-TASS news service reported that the Russian Federal Counterintelligence Service has recovered a 5.5 kg sample of uranium-238 that allegedly was stolen from the National Nuclear Center near Chelyabinsk. The uranium was found at the home of one of the center's employees, who had previously been arrested for attempting to sell plutonium.

7/5/94 - THE WASHINGTON TIMES, "North Korea Shops for Nuke Technology in Russia," p. 1.
Sergei Stepashin, head of Russia's Counterintelligence Service, announced that three North Koreans were recently detained in the Primorskoye region for allegedly trying to acquire nuclear weapons components. This case is just the latest in a series of incidents in which North Koreans were found to be shopping for Russian missile and nuclear technology. Despite frequent reports of this nature in the Russian and Japanese media, U.S. officials assert that there is no evidence indicating that North Korea has succeeded in smuggling either nuclear scientists or bomb components out of Russia.

7/3/94 - THE MONTEREY HERALD, "Russian Mob Eyes U.S., FBI Chief Says."
An unprecedented three-day summit was held between the nationwide crimefighting agencies of the United States and Russia. Colonel General Mikhail Yegorov, the Russian counterpart of FBI Director Louis Freeh, revealed that over the past 18 months 50 incidents of nuclear materials theft have been recorded. According to Yegorov, "as a rule these were of low enrichment and small quantities. There have been no thefts of nuclear materials which can be made into weapons." [See also KRASNAYA ZVEZDA no. 147, 7/1/94; THE SUNDAY TIMES 7/3/94, "FBI steps in to prevent nuclear theft"; FBIS-SOV 7/5/94, p. 27, "Theft of Weapons-Grade Uranium Denied," originally from INTERFAX 7/4/94; THE CHRISTIAN SCIENCE MONITOR 7/5/94, "FBI's Moscow Missions: The Mob, Nuclear Theft"; THE INTERNATIONAL HERALD TRIBUNE 7/6/94, "FBI Signs Pact With Moscow"; THE NEW YORK TIMES 7/6/94, "Old Enemies Now Allied Against Crime"; NEUE ZURICHER ZEITUNG 7/7/94, "Russisch-amerikanische Bekmpfung der Mafia."]

7/2/94 - SEGODNYA, "The Stolen Uranium Would Have Been Enough to Make a Nuclear Bomb," p. 7.
The editorial staff of SEGODNYA has learned from reliable sources that three officers from Russia's Northern Fleet have been detained in connection with last year's theft of nuclear fuel from Northern Fleet depots. The material in question was 4.5 kg of uranium-238, enriched with uranium-235. Its market value was estimated at $600,000 - $700,000. The uranium was discovered in the garage of one of the thieves.

6/30/94 - SEGODNYA, "IAEA Establishes Contacts With The FIS," p. 1.
Yevgenii Primakov, Director of the Russian Foreign Intelligence Service (FIS) has met with IAEA General Director Hans Blix in Moscow. The

IAEA director is seeking to establish closer cooperation with Russian intelligence in collecting information about the proliferation and development of weapons of mass destruction, including nuclear weapons.

6/27/94 - CONGRESSIONAL TESTIMONY GIVEN BY WILLIAM C. POTTER on NUCLEAR INSECURITY IN THE POST-SOVIET STATES

There remain surprisingly few cases of confirmed -- as opposed to reported -- diversions involving weapons-grade material. The most serious incidents are the disappearance of an undisclosed amount of highly-enriched uranium (HEU) from the Luch nuclear research facility in Podolsk (near Moscow), the theft of three fuel elements containing HEU from a naval base in Murmansk, and the St. Petersburg case cited by FBI Director Louis Freeh involving the possible theft of two or more kilograms of HEU. Most of the other reported diversions of weapons-grade fissile material, including the 60 kg of HEU mentioned by Seymour Hersh in his recent ATLANTIC MONTHLY article, actually involved only low-enriched uranium with no direct application in a nuclear weapons program.

There has, however, been a recent alarming development concerning the confiscation of a small amount of weapons-grade plutonium in Germany. Laboratory analysis by scientists in Karlsruhe indicates that a canister found in an apartment in Tengen (near Konstanz) on May 10th, 1994, contained approximately 6 grams of weapons-grade plutonium (99.75% Pu-239), mixed with 50 grams of a metallic alloy. Based on the results of isotopic analysis, the material appears to have originated at a Russian nuclear facility. If these preliminary findings are in fact confirmed, the danger of illicit international trade in weapons-grade materials will no longer be purely theoretical. [A Russian version of Dr. Potter's article appears in SEGODNIA 11/11/94.]

6/22/94 - REUTER, "Three Detained in Moldova with Radioactive Cobalt;" in DOE Monthly Summary, June 1994.

Moldovan police arrested a Russian and two Moldovans for attempting to sell an undetermined amount of cobalt-60 for $20,000. The cobalt originated from a Russian plant and was packaged in a standard factory container. According to Semyon Lacrimiora, chief of the Defense Ministry's organized crime department, the Russian was a former army officer and one of the arrested Moldovans formerly worked at a factory located at Penza, in Russia. Lacrimiora also stated that police are searching for a Romanian who offered to purchase the cobalt. [AGENCE FRANCE PRESSE, "Four Detained in Bid at Smuggling Radioactive Material," 6/25/94.]

6/17/94 - RUSSIA & CIS TODAY -- TV & RADIO MONITORING, originally from RUSSIAN NEWS (NOVOSTI).

In an interview with INTERFAX, Russia's Deputy Minister for Atomic Energy, Lev Ryabev, stated that Western press reports on the diversion of nuclear materials from Russia aim to show that a nuclear weapon-armed Russia poses a threat to the world community. The deputy minister added that over the past year and a half, there have been 10 instances of nuclear materials diversion, 9 of which involved only uranium-238, which has no direct application in nuclear weapons programs. According to Ryabev, the only case involving highly-enriched uranium-235 was the incident at the Luch production facility in Podolsk, near Moscow. Even so, said Ryabev, the quantity of material in question was not enough to manufacture an atomic bomb. [See also FBIS-SOV 6/17/94, "Atomic Energy Minister: West Trying To Discredit Russia," originally from INTERFAX in English.]

6/16/94 - NOVAYA YEZHEDNEVNAYA GAZETA, "Uranium Transported in a Passenger Railcar and Stored in a Cool Place," p. 1.

Further details on the case involving the diversion of HEU from the MINATOM factory outside Moscow: the theft occurred last February, when a plant worker reportedly hid a small quantity of 90% enriched uranium in his mitten in order to smuggle it off of the premises. The plant's managers became aware of what had transpired only several months later, when the incident went public. [See also IZVESTIYA 6/9/94, p. 2.]

6/16/94 - WIENER ZEITUNG, "Vienna: 5.7 kg Enriched Uranium Discovered," p. 7.

On the morning of June 15th, Vienna police reportedly discovered 5.7 kg of enriched uranium in metallic form in the home of a 39-year-old Croatian living on Museumstrasse. Specialists at the Seibersdorf Nuclear Research Center who examined the material said that it is generally used for containers to hold radioactive substances. However, if subjected to extensive neutron bombardment it might be possible to extract plutonium from it, in small quantities.

6/16/94 - FBIS-SOV, "North Koreans Expelled For Nuclear Parts Purchase Attempt," p. 8, originally from SEOUL KBS-1 RADIO NETWORK 6/15/94 in Korean.

According to INTERFAX news agency, Russia recently expelled five North Koreans for attempting to obtain nuclear bomb components in Yuzhno-Sakhalinsk, the capital of Sakhalin Island. The Koreans' activities reportedly were discovered by a Russian counterintelligence agency. [See also SEGODNYA 6/16/94, p. 1.]

6/13/94 - CHEMICAL AND ENGINEERING NEWS, "U.S. And Russia Face Urgent Decisions On Weapons Plutonium;" in DOE Monthly Summary, July 1994.

There have been three confirmed reports of stolen uranium, one of which included weapons-grade uranium. According to Vladimir Orlov of MOSCOW NEWS, theives were caught during several attempts to steal plutonium from Krasnoyarsk-26.

6/12/94 - THE WASHINGTON TIMES, "Gangsters reported with nuclear know-how," p. A7.

According to a senior German intelligence official, Russian gangsters have gained access to the technologies needed to build nuclear weapons, and could use them for the purposes of international blackmail. In two weeks the FBI will be opening a Moscow office to manage international crime control efforts carried out jointly with Russian Federation authorities; the German government is now considering legislative changes which would enable its intelligence agency (the BND) to participate in such joint measures. [See also THE WASHINGTON TIMES 5/26/94, "FBI to open Moscow office with eye on nuke trafficking," p. A3.]

6/9/94 - IZVESTIYA, "Russia Has Become A Test Site For Exotic Intelligence Services," p. 3.

Yuri Baturin, National Security Adviser to the Russian president, has stated that Russian authorities are concerned by the espionage activity being conducted within Russia by Chinese and North Korean agents. According to Baturin, "now measures are being adopted to prevent the leakage of technologies, in particular dual-purpose technologies." [See also FBIS-SOV 6/9/94, p. 10.]

6/8/94 - FBIS-SOV, "FCIS Detains Group Trying To Sell Uranium Dioxide," originally from INTERFAX in English 6/7/94.

Last March, Russian counterintelligence agents in St. Petersburg apprehended a group of people who reportedly intended to sell over 3 kg of uranium dioxide (90% of which was uranium-235). The agents have determined that the uranium was stolen from an enterprise belonging to the Automobile Industry Ministry located near Moscow.

6/6-7/94 - REUTER, "Russians Held for Trying to Sell Enriched Uranium" and "Russians Play Down Stolen Uranium Scare."

Last March three men were detained in St. Petersburg for allegedly stealing 3 kg (7 lbs.) of highly-enriched uranium from a MINATOM factory located near Moscow. The arrest was made public only this week, however, once the St. Petersburg police had recovered all of the uranium in question. The culprits apparently smuggled the uranium out of the plant by hiding it in their protective gloves and then simply exiting through the factory gates.

Russian counter-intelligence officials have sought to downplay the incident, stating: "We're not talking here about the kind of uranium you can make atomic bombs from. That would need to be further enriched. So there's no basis for any real worry. It's a purely internal problem." The thieves reportedly intended to sell the uranium in Germany for $300 a gram. [See also KOMSOMOLSKAYA PRAVDA 6/8/94, p.1; NOVAYA YEZHEDNEVNAYA GAZETA 6/9/94; FBIS-SOV 6/9/94, pp. 35-6.]

6/3/94 - DEUTSCHE PRESSE AGENTUR, "Plutonium Reportedly From Moscow."

According to sources in the German intelligence services, the plutonium discovered in Baden-Wrttemberg appears to have originated in Moscow, arriving in Germany by means of a roundabout route through Hungary and Switzerland. Further details have not yet been disclosed. Experts claim that this is the first instance of weapons-grade plutonium smuggling in Germany. [See also SEGODNYA 6/1/94 no. 101, p. 4.]

6/94 - THE ATLANTIC MONTHLY, "The Wild East," pp. 61-86.

Author Seymour Hersch argues that Russian organized crime poses a threat to governmental control over stockpiles of tactical nuclear warheads, weapons-grade plutonium and enriched uranium. According to one employee of the U.S. Embassy in Moscow, "It's getting more and more gray in Moscow as to who's in government and who's in the mafia. It's more and more entwined. It's chaos out there." He cites a 1993 U.S. Department of Energy report on the Russian mafia, according to which leading figures in the Russian and Italian mafia have started to cooperate in smuggling nuclear materials along international drug trafficking routes.

To date, however, there have been no verifiable instances of the diversion or illegal sale of either warheads or significant quantities of enriched materials. As a result, Clinton Administration officials are tending to downplay the issue: "Unless you are able to come up with a credible story that a warhead has made it out of Russia, it's not particularly important."

Hersch makes reference to articles in DER SPIEGEL (2/94) -- on the German federal intelligence agency's recent report to Chancellor Helmut Kohl, stating that Western gangsters could be in a position to obtain nuclear devices -- and STERN (3/93), citing a KGB report to the effect that North Korea received 56 kg of plutonium from the former Soviet Union. He also describes as "the most significant case" an incident in which 60 kg of HEU was supposedly seized last April in Izhevsk by the Russian Ministry of Security. [Editor's note: the material in question in fact was low-enriched uranium.]

5/27/94 - DEUTSCHE PRESSE AGENTUR, "Seized Plutonium Reportedly Weapons-Grade" and "Businessman Detained."

The plutonium seized in Baden-Wrttemberg in early May reportedly is weapons-grade material -- specifically, 56 grams of plutonium-239 powder. It was stored in a lead cylinder 11 cm in height that had been sealed with a steel band. The material was discovered by police while they were searching the Tengen apartment of a German businessman who is currently being held on suspicion of dealing in counterfeit money. The Environment Ministry has stated that the plutonium probably originated in Eastern

Europe.

5/26/94 - REUTER, "German Police Seize Plutonium in Raid."
Stuttgart police recently seized 60 grams (2.1 ounces) of what was reported to be plutonium-239 during the raid of a house. According to Baden-Wrttemberg Environment Minister Harald Schaefer, the incident was "extremely serious" but the amount of plutonium was less than that required to make a nuclear bomb. Authorities suspect that the plutonium was smuggled into Germany from Eastern Europe.

5/26/94 - THE WASHINGTON POST, "Freeh Warns of a New Russian Threat; Rise in Organized Crime Could Pose Nuclear Danger, FBI Chief Says."
In addressing a Senate panel, FBI Director Louis J. Freeh stated that the number and strength of Russian organized crime groups operating in the United States are increasing. In Freeh's opinion, such groups constitute "a mounting threat to the safety and well-being" of the American people in that they might be able to acquire nuclear weapons, nuclear materials, or even a nuclear bomb. According to Freeh, an investigation is now underway concerning the possible theft of several kilograms of highly-enriched uranium. Freeh's Russian counterpart, First Deputy Minister of the Interior Mikhail Yegorov, agreed with this assessment of the potential threat to Americans. Cooperative efforts -- i.e., putting Russian police officers through FBI training in strategies for fighting organized crime, the creation of a joint data base and the establishment of secure communication links -- are currently being discussed. [See also THE NEW YORK TIMES 5/26/94, p. A11; THE LOS ANGELES TIMES 5/30/94, p. B6.]

5/24/94 - REUTER, "Italian Magistrate Held in Arms and Nuclear Probe."
An Italian prosecutor whose specialty is investigating nuclear smuggling cases has been arrested on suspicion of having ties with organized crime groups which have been taking weapons, explosives and radioactive materials out of former Soviet bloc countries.

5/23/94 - JPRS-TEN, "Stolen Cesium Thought Dumped in Nikolayev Plant Reservoir," p. 35, originally from MOSCOW OSTANKINO TELEVISION 5/12/94.
The Nikolayev Alumina Plant [sic], the largest of its kind in Europe, is in trouble because of a minute capsule containing pure cesium, which is highly radioactive. Criminals allegedly removed the capsule from a piece of measuring equipment, hoping to line their pockets by selling this valuable metal. An investigation is currently underway, and the ill-fated cesium capsule is presumed to be resting at the bottom of the reservoir.

5/18/94-KOMSOMOLSKAYA PRAVDA, "Look Out, the Osmium Has Turned Green!"p. 3.
Counterintelligence agents in Sverdlovsk Oblast caught two Yekaterinburg dealers in the act of trying to sell 2 grams of osmium-192 -- valued at $110,000 -- to a so-called "company representative." It has not yet been established where the would-be businessmen from Yekaterinburg acquired this rare isotope, which is used as a catalyst in nuclear reactors. It appears that the purchaser was just a middleman, and that ultimately the material was intended for a customer outside of Russia.

5/17/94 - TRUD, "Thefts of Radioactive Isotopes Increasing," p. 6.
Incidents involving the theft of radioactive isotopes (with a radioactivity level of about 3 curies) from industrial enterprises have been occurring with ever-increasing frequency. There allegedly are customers for these materials abroad. Thus, for the sake of relatively paltry amounts of hard currency, people are exposing themselves to the risk of a slow death. In Donbass oblast, for example, 21 such cases have been recorded.

5/17/94 - TRUD, "Thefts at the Level of 'Accidents';" in DOE Monthly Summary, May 1994.

Three vials of cesium-137 in their lead containers, each weighing 100 kg, were stolen from Dzerzhinsk. Twenty-one "accidents" have been recorded in the Donetsk Oblast, seven of which were thefts and 14 of which were due to unpremeditated actions and other circumstances.

5/16/94 - LONDON TIMES, "Russian Mafia Eyes Lucrative Trade in Nuclear Weaponry;" in DOE Monthly Summary, May 1994.

A KGB officer announced that in 1993, several people were arrested as they attempted to smuggle 100 kg of uranium through the Baltics into Poland. The KGB official would not state the uranium's final destination.

5/16/94 - NEW YORK TIMES, "Do Warheads Tempt Russia's Mobsters?", p. A2.

According to an article in a recent issue of THE ATLANTIC MONTHLY, the Russian mafia is seeking to gain control over 15,000 tactical nuclear warheads in order to "hijack the state." This past April, Russian security forces reportedly seized some 132 pounds of highly-enriched uranium -- "enough to make three weapons of Hiroshima size" -- in the city of Izhevsk. [See also REUTER 5/15/94, "Russian Organized Crime Seeks Nuclear Warheads."]

5/13/94 - EL PAIS (in Spanish), "Robo de una c psula radiactiva en Ucrania."

A container with highly-radioactive cesium-137 has been stolen from a plant in Nikolayev, Ukraine. Three people have been hospitalized in connection with this incident, and six others are undergoing medical observation for radiation exposure. Police have yet to find either the culprits or the container, which appears to have been opened. [See also FBIS-SOV 5/13/94, p. 48; NUCNET no. 234-6, 5/16/94.]

5/11/94 - WALL STREET JOURNAL, "Loose Nukes: Uranium, Plutonium, Who's Got the Goods? Nuclear Nations Ask," p. A1.

In an interview with NUKEM MARKET REPORT, MINATOM head Victor Mikhailov said that he knows of two thefts involving low-enriched uranium and one involving highly-enriched (i.e., bomb grade) uranium stolen from fuel fabrication facilities. Although he did not go into detail about the latter incident, Mr. Mikhailov's statement would appear to indicate that highly-enriched nuclear materials are in fact vulnerable to diversion and that Russia still does not seem to have a reliable system of material control and accounting.

5/10/94 - FBIS-SOV, "Radioactive Equipment Stolen from Tbilisi Institute," p. 31, originally from MOSCOW TELEVISION FIRST CHANNEL NETWORK 5/9/94.

A radioactive machine used in Chernobyl clean-up efforts has been stolen from the radiological institute located in a suburb of Tbilisi. According to institute spokespeople, the machine has a high enough radiation level to be harmful.

5/9/94 - FBIS-SOV, "Radioactive Devices Stolen in Port of Nakhodka," p. 33, originally from MOSCOW TELEVISION 5/6/94.

Eight control units from radiation monitoring equipment were stolen from a Nakhodka laboratory several days ago, according to Russia's State Supervision Agency for Atomic Power Capabilities. The units contained highly radioactive nuclides, including strontium-90 and plutonium-239. An investigation is currently underway.

5/5/94 - KRASNAYA ZVEZDA, "Belorusskie 'Zelenye Furazhki' vstayut na puti grabitelei Rossii," p. 1.

Special border zones have been created in Belarus, along that country's borders with Poland and Lithuania, for the purpose of preventing the smuggling of arms, drugs and strategic raw materials.

4/22/94 - REUTER, "Turks Detain Three People for Uranium Smuggling;" in DOE Monthly Summary, April 1994.

Turkish police arrested an Azeri, a Turk, and another man at the Istanbul Airport for attempting to smuggle a substance believed to be uranium. Turkish security discovered the substance in two steel containers in their luggage as they boarded a flight to Russia.

4/20/94 - DIE WELT, "Illegal Dealing in Nuclear Material Soaring," p. 2.

Germany's Federal Office for Criminal Investigations has reported a "marked increase" in illegal trafficking in radioactive materials for 1993. According to information received by DIE WELT, 40 kg of uranium-238 were recently offered for sale on the German black market, having been brought to the West from Siberia by military transport aircraft. DIE WELT is also in possession of a drawing showing the containers in which the uranium was brought to potential buyers in Hamburg. On the German side, the intermediary is an engineer from Saxony who allegedly has access to uranium stockpiles in Russia. [See also FBIS-WEU 4/25/94, p. 19; DAILY TELEGRAPH 4/21/94, "Nuclear Smuggling Soars."]

4/19/94 - FBIS-SOV, "Swede Expelled for Seeking Nuclear Warhead Components," p. 52, originally from UNIAN 4/15/94 in Ukrainian.

A Swedish citizen visiting Ukraine was expelled for allegedly seeking to make contact with nuclear specialists with the goal of removing nuclear warhead components from Ukrainian territory.

4/18/94 - TIME, "Russia's Yard Sale," pp. 52-55.

Precious metals traditionally mined or produced by MINATOM reportedly have become fair game for Russian mafia, KGB, former party officials and rising new bureaucrats in Moscow. There are tremendous profits to be made from selling such metals to foreign clients, and everyone wants to get his two cents worth. The journalist who wrote this TIME article traveled to Sverdlovsk with a Western businessman investigating potential deals; a number of concrete instances are detailed. [See also U.S. NEWS & WORLD REPORT 3/7/94; DIE ZEIT 7/29/94, p. 10, "Reporter Infiltrates Nuclear Black Market."]

4/15/94 - IZVESTIYA, "All of England is Talking About Red Mercury and a New Russian Weapon," p. 3.

Channel 4 of British Television recently showed a documentary concerning a new top-secret weapon allegedly created in Russia. Rumors about this weapon have been linked with the mystery substance known as "red mercury." According to this documentary, red mercury is not just a myth, and is actually a major component in a so-called "clean thermonuclear bomb" which has reportedly been made only in Russia. A spokesperson for the Russian Federation Ministry of Defense has denied the existence of both red mercury and this new type of thermonuclear bomb. [See also JPRS-TND 5/5/94, p. 32; INTERNATIONAL DEFENSE REVIEW no. 6, 1994, pp. 79-81; REUTER 4/12/94, "Russians Have Baseball-Size Neutron Bomb."]

4/15/94 - PAP NEWS WIRE, "Alleged Uranium Traffickers Sentenced to Pay Small Fines;" in DOE Monthly Summary, April 1994.

On April 15, 1994, three men who had been arrested in March 1993 in the town of Gdynia, Poland for possessing a few hundred grams of uranium trioxide that had originated in Russia were fined 25 million zlotys (over $1,100) each.

4/14/94 - JPRS-TND, "'Secret Report' Cited on Nuclear Weapons Sales," originally from AL WATAN AL-ARABI 4/1/94.

This article cites an allegedly secret report recently submitted to President Yeltsin by the Russian Federation Counterespionage Service, which indicates that "it is impossible to prevent thefts, smuggling, and secret trade, which is on the rise in military plants and sensitive laboratories." Moreover, breakaway former Soviet republics reportedly are no longer able to look after potentially-dangerous nuclear installations on their territory, and have begun selling them off to Iran, Pakistan, Iraq or other buyers. For the second half of 1993 alone, the report documents 900 cases of thefts from military and nuclear facilities, and 700 cases of thefts of secret technologies. [See also FBIS-SOV 4/5/94, p. 4.]

4/9/94 - FBIS-SOV, "Baltic Fleet Denies Selling Radioactive Hovercraft," p. 14, originally from MOSCOW MAYAK RADIO NETWORK 4/9/94.

The press center of the Baltic Fleet has denied recent reports that the Baltic Fleet Command in Tallinn illegally sold a number of out-of-service hover landing craft containing radiation sources. In February of 1993, the Tallinn naval base did agree to sell two surplus minesweepers to an Estonian company, but radioactivity was never an issue in that transaction.

4/4/94 - FBIS-SOV, "Radioactive Material Seized by Security Forces," p. 49, originally from KIEV RADIO FIRST PROGRAM 4/1/94 in Ukrainian.

The organized crime-fighting department of the Ukrainian Internal Affairs and Security Service in Zaporozhe has detained a 50-year old unemployed man who reportedly had two containers of cesium-137, 55 kg in each one. There are indications that the radioactive material may have been stolen from the Zaporozhe-2 train station. [See also JPRS-TND 5/5/94, "Officers Seize 55 kg Radioactive Cesium-137 in Zaporizhzhya," p. 37.]

4/4/94 - FBIS-SOV, "Russians Said Selling Radioactive Materials," originally from MOSCOW TELEVISION 4/3/94.

The general director of the Estonian Security Police has accused Russian commanders stationed on Estonian territory of dealing in radioactive materials, citing at least five instances in which highly radioactive articles were sold to the West. In one case, the items involved were air-cushion vessels (with engine components emitting 200 roentgens/hour); in another -- turbine sections containing radioactive cobalt.

March/April 1994 - BULLETIN OF THE ATOMIC SCIENTISTS, "Nuclear Nonsense, Black-Market Bombs, and Fissile Flim-Flam," pp. 44-50.

LITERATURNAYA GAZETA correspondent Kirill Belyaninov describes an undercover assignment he undertook with two other Russian journalists to investigate the nuclear materials black market. Posing as businessmen, the journalists met with brokers at Moscow raw materials exchanges and middlemen dealing in rare earth metals. They succeeded in penetrating into the shadowy world of the "ventilators," as nuclear black marketeers have come to be called.

3/30/94 - VECHERNYI CHELYABINSK no. 60, "Zaderzhan rabotnik federal'nogo iadernogo tsentra," p. 1.

An employee of the All-Russia Theoretical Physics Research Institute was caught red-handed exchanging 130 grams of platinum for $1,200, according to officials from the counterintelligence service and internal affairs bureau of Snezhinsk (formerly Chelyabinsk-70) and Chelyabinsk.

3/25/94 - FBIS-SOV, "Russia, Ukraine Pool Efforts to Combat Smuggling," originally from ITAR-TASS in English 3/22/94.

Border guards serving in Russia and Ukraine recently met in Voronezh (in Central Russia) to discuss protection of the 2,000 km-long border between the two states, devoting particular attention to the prevention of smuggling. A resolution on joint border protection was passed at the end of the working session.

3/23/94 - JPRS-TND, "Mafia Said to Lack Access to Nuclear Materials," p. 13, originally from DEUTSCHE PRESSE AGENTUR 3/9/94.

In an interview with the HANNOVERSCHE ALLGEMEINE ZEITUNG, the director of Germany's Federal Intelligence Service stated that there are no indications that countries seeking to develop nuclear weapons have succeeded in recruiting Russian nuclear specialists. He added that "Nuclear smuggling from the former Soviet Union is not as widespread as portrayed in the media... It can be said with more or less certainty that the atomic arsenal is under the control of the armed forces there. We have no knowledge that the Russian mafia has any influence on nuclear facilities."

3/19/94 - THE DAILY TELEGRAPH, "Miraculous Mercury is a Russian Red Herring."

Moscow authorities acknowledged yesterday that the mysterious substance known as "red mercury" is nothing but a hoax. Allegedly a vital component for nuclear bombs, guided missiles and stealth aircraft, red mercury has been peddled throughout Europe and the Middle East by Russian businessmen, who have made fortunes for themselves in the process. In one case, a Saudi Arabian sheikh paid 2.5 million pounds for several shipments of the substance. The IAEA has long maintained that red mercury was a red herring, and yesterday an IAEA spokesman was quoted as saying: "I am glad the Russians have come to the same conclusion." The origin of the myth surrounding red mercury is unclear. However, an ochre-colored sulphate of mercury is in fact used as a detonator.

3/18-24/94 - THE EUROPEAN, "Europe Alert Over Threat of Nuclear Terrorism," pp. 1-2.

Security forces in western and eastern Europe are uniting their efforts to combat nuclear smuggling from the successor states of the former Soviet Union. Interpol has established a special group for this purpose, consisting of police forces from 24 European countries. Customs personnel in Poland, the Czech Republic, Ukraine and Sweden are now being provided with radiation detectors and taught how to handle radioactive substances properly. According to one high-ranking Interpol officer stationed in Lyon, "Our main problem is the lack of information. This is a new sort of crime -- we do not yet know who is smuggling the material, who is buying it, and why." In the opinion of a Moscow-based investigator, "Most of the thieves are cowboys. They have no idea they are dealing with highly dangerous substances."

3/16/94 - JPRS-TND, "Container With Radioactive Scrap Metal Discovered," p. 37.

The Estonian Customs Service has found a container with radioactive scrap metal at a commercial port in Tallinn. The metal's degree of radioactivity was reported to be ten times higher than the maximum permissible level.

3/16/94 - JPRS-TND, "Crashed Cessna Reportedly Scheduled to Go to Beijing," p. 46, originally from FOCUS 2/14/94 in German, p. 3.

Further developments in the enigmatic case of the Cessna that crashed in Lake Constance: the Cessna's four passengers appear to have been bound for Beijing with the aim of meeting with three-star General Jin Kang Wang. The general reportedly was prepared to sell 6 kg of osmium-187 and 365 of the so-called "Red Mercury" for $493 million dollars. According to one expert at Germany's Federal Institute for Material Research in Berlin, however, neither osmium-187 nor the legendary red mercury has significant market value. The underlying motivation for the Cessna passengers' actions therefore remains unclear.

3/12/94 - KOMSOMOLSKAYA PRAVDA, "Radioactive Train," p. 8.
Employees of the Volga-Vyatka Internal Affairs Administration seized several containers of radioactive polonium-210 that had been coupled to a passenger train for shipment to Kiev. It is being claimed that the material, which originated in Arzamas-16, was for use in X-ray machines.

3/3/94 - IZVESTIYA #41, "Rizhskii bank finansiruet torgovliu redkimi metallami iz Rossii," p. 3.
An unusual document was published in a recent issue of the Latvian newspaper DIENA: the Latvian Bank of Reconstruction and Development has provided a Finnish firm with credit on the scale of $4,555,000,000 for the purchase of osmium in Russia. The document indicates that "we have been offered 32.9 kg of osmium-187 for a reasonable price -- US $64,450 per gram." According to DIENA, such transactions involving rare metals are occurring with increasing frequency. Moreover, the Chairman of the Board of the Latvian Bank of Reconstruction and Development, prominent businessman Voldemars Selga, is said to be involved in numerous rare metal transactions. [See also KOMSOMOLSKAYA PRAVDA, 5/6/94, p. 5; JPRS-TND 3/23/94, pp. 16-8.]

3/94 - VESTNIK CHERNOBYLYA no. 18, "Medvezhatniki Donbassa spetsializiruyutsya na radioactivnom tsezii-137 i prodayut ego na Zapad," p. 4.
Four three-curie samples of cesium-137 were stolen from facilities in Dzerzhinsk within a two-day timeframe. According to the Donetsk Health Protection Agency, the desire for Western hard currency is making incidents such as these more frequent.

2/26/94 - DEUTSCHE PRESSE AGENTUR, "Interior Ministry Says Illegal Trade in Nuclear Fuels Rising."
BILD AM SONNTAG, citing a confidential German Interior Ministry report, states that in 1993 the number of attempted illegal sales of nuclear materials rose to 123, as compared with 99 incidents over the previous year. Moreover, in 1993 German police made 545 arrests in connection with nuclear smuggling, most of the suspects being from Russia and the Czech Republic.

2/25/94 - JPRS-TND, "Lack of Money Said Behind Thefts, Resale of Uranium," p. 27, originally from ITAR-TASS in English 2/9/94.
According to Yuri Yefimov, Head of the Department for the Protection of Strategic State Facilities (Russian Interior Ministry), over the past year there have been 11 attempts to steal uranium from Russian nuclear facilities, 900 attempts to gain unlawful entry into secret nuclear installations and 700 cases in which employees were caught trying to smuggle secret documents out of such facilities. The Russian Interior Ministry cites worsening economic conditions in Russia as a major motive behind such thefts.

2/23/94 - PRAVDA, "Radioactive Cargo Was Not in the Hands of Terrorists."
Russian police arrested a man who was carrying radioactive isotopes to Moscow on an ordinary passenger train, only to find out that he was the director of the Dmitrovgrad Research Institute of Nuclear Reactor. He claimed that "we usually transport similar radioactive sources to the capital in ordinary passenger trains, and we have never received any complaints because they pose no danger to human health... All this is an

unfortunate misunderstanding." [See also REUTER 2/21/94, TIME 3/7/94, KOMSOMOLSKAYA PRAVDA, 5/6/94, ROSSIISKIE VESTI #34, 2/25/94 and JPRS-TND 3/16/94, p. 32.]

2/17/94 - IZVESTIYA #31, "Litva ne v silakh ostanovit' iadernuiu kontrabandu," p. 3.

Povilas Vaishnis, head of the Lithuanian Nuclear Safety Inspectorate (VATESI), has neither confirmed nor denied German police reports to the effect that Vilnius and Kaunas have become a focal point for nuclear smuggling. Such fears have been on the rise since last year's theft of a fuel assembly from the Ignalina nuclear power plant; to this day the assembly's whereabouts remain unknown. According to Vaishnis, "We are trying to close the door on nuclear fuel exports, but it is a difficult task. We lack not only the necessary equipment and technical means, but also qualified customs personnel and experience in tracking down smugglers."

2/11/94 - JPRS-TND, "Official Denies Threat of Weapons-Grade Plutonium," p. 17, originally from ITAR-TASS in English.

MINATOM head Victor Mikhailov has notified Interior Minister Victor Yerin that the Interior Ministry needs to take steps to prevent its staff from commenting on MINATOM's situation "based on fabrications and fantasies without appropriate scientific examination and documented confirmation." Mikhailov was reacting to statements made by Interior Ministry officials to the effect that thefts of highly-enriched uranium, weapons-grade plutonium and nuclear warheads have become commonplace. Mikhailov vehemently denies the existence of evidence that such thefts have occurred.

2/9/94 - DER SPIEGEL #6, 1994,"It Brings Everyone to Their Knees," pp.76-9.

A plane, reportedly with stolen radioactive cesium-137 on board, crashed in Lake Boden (Germany). There was no sign of the material when the airplane was brought to the surface, however, and the pilot and passengers (two Germans and one Czech woman) had disappeared. All of four of them are suspected of being linked to the "Russian Nuclear Mafia," and the possibility has not been ruled out that the crash was planned to cover up a smuggling operation.

Around the time of the accident, German intelligence issued a report on the status of radioactive material smuggling which indicated that such trafficking was on the rise and involved material with higher enrichment levels. The report also claims that Lithuania (Vilnius and Kaunas) has become a major center of illegal nuclear trade. Also included in the article are the alleged current black market prices for various "strategic materials." [See also MOSCOW OSTANKINO TELEVISION NEWS 2/9/94, IZVESTIYA nos. 23, 24, 26 and FBIS-CENTRAL EURASIA 2/16/94, pp. 14-5.]

2/1/94 - KURIER, "Russische Mafia schmuggelt wertlosen radioaktiven Mll."

The disintegration of the Soviet Union is being accompanied by "nuclear fear" and hysteria, which is being put to use by a worldwide network of swindlers. The Russian mafia is proving to be quite able. When a substance said to be plutonium was surrendered in Vienna, it set off the Geiger counter. Analysis indicated that the radiation-emitting screw came from the fire alarm of the Moscow Metro -- but there was not a trace of usable plutonium. Cases like these are accumulating. The culprits are the Russian mafia, who offer this kind of "radioactive trash" for sale as weapons-grade plutonium. And the victims? Western businessmen, with their desire for profit.

1/29/94 - TRUD, "From Russia With a Nuclear Welcome," p. 2.

This piece of investigative journalism outlines the circumstances of several instances of nuclear materials diversion in Russia, all involving thefts of uranium-235 and -238 from "secret" enterprises within the Russian Federation defense industry. The author then attempts to draw general conclusions as to the types of people involved in these cases, their motives and the methods they use. In his opinion, in most cases the culprits are simply people spontaneously seizing upon an opportunity that could improve their material situation. [See also JPRS-TND 2/25/94.]

1/24/94 - REUTER, "Russian Atomic Energy Minister Denies Fuel Theft."

According to Itar-Tass, Russian Atomic Energy Minister Viktor Mikhailov has denied reports that weapons-grade fuel and nuclear warheads are being stolen from secret defense installations under the ministry's jurisdiction. These reports originated with Russia's Interior Ministry, but Mikhailov has stated that there is no evidence to suggest that such thefts have been taking place. [See also FBIS-SOV 1/24/94, pp. 39-40; ROSSIISKAYA GAZETA 1/28/94, no. 15, p. 1.]

1/17/94 - REUTER, "Greenpeace Says It Almost Got Nuclear Missile."

A Soviet lieutenant stationed at Altengrabow (south of Berlin) reportedly offered Greenpeace a Scud missile, complete with nuclear warhead, in exchange for $285,000 and political asylum in the West. He claimed to have access to the keys and codes needed for entry into the warhead storage area. In late July, however, the lieutenant disappeared, and was replaced by other security guards. The details of the story, known as "Operation Loose Cannon," are to appear in CRITICAL MASS, a book about nuclear proliferation published in the United States. [See also THE WASHINGTON TIMES, "Greenpeace had chance to be a nuclear power," p. A13, 11/18/93.]

1/13/94 - NUCLEONICS WEEK, "No Evidence Convicted Smuggler Had Access to Soviet Plutonium."

In December 1993, the district court of Flensburg (Germany) issued a suspended sentence to a British subject who admitted having smuggled a 0.2-milligram sample of Pu-239 into Germany. The plutonium was concealed inside a Soviet-produced smoke detector that had been stolen in Bulgaria. In the German press, the incident received wide coverage as the first proven case of illegal plutonium sales involving material from the former Soviet Union.

1/13/94 - INTELLIGENCE NEWSLETTER, "Silent Killing."

Moscow police have attributed the death of a prominent businessman last year to exposure to highly-radioactive materials. The materials had been hidden at neck height in the director's armchair, and extremely high radioactivity levels were found in the rooms around the director's office. The mafia are believed to have played a role in the killing. [See also THE TORONTO STAR 1/25/94, p. A18.]

1/9/94 - PRAVDA, "Uranium for Export," p. 1.

According to the Kaluga Internal Affairs Administration, the vice-president of a prominent Obninsk firm was found to have a container of uranium-235 in his possession. The man's brother, a resident of Elektrostal (Moscow oblast), turned out to have obtained roughly 30 times more uranium than his brother. The uranium is believed to have been earmarked for sale in the Near East or Germany. [See also JPRS-TND 2/25/94, p. 27.]

1/6/94 - JPRS-TND, "Submarine Nuclear Fuel Stolen from Murmansk" (p. 22), "Nuclear Fuel Rods Stolen from Murmansk Naval Base" and "Stolen Nuclear Fuel Still Missing" (p. 24).

Three spent fuel rods from submarine reactors were stolen on November 27th from a Northern Fleet strategic depot near Murmansk. According to the Head of the Nuclear Safety Inspectorate for the Nuclear Installations of

Russia's Ministry of Defense, spent fuel storage facilities are "crammed full. Stores for fresh nuclear fuel do not meet nuclear safety standards and there is the problem of ships taken out of combat service, that is, the unloading of active areas." The Navy openly acknowledges the existence of nuclear fuel- related problems, but is apparently powerless to do anything to stop them on its own. [See also FBIS-CENTRAL EURASIA 12/17/93, "Navy Nuclear Inspector on Failure to Meet Standards" from Moscow Radio (12/16/93)]

1/94

There have been unconfirmed reports to the effect that drug trafficking groups in the Golden Triangle region of Southeast Asia have offered to pay up to US $25 million for tactical nuclear devices from the Former Soviet Union. Similarly, members of Russian organized crime have allegedly promised to make tactical nuclear weapons available for the right price.

12/30/93 - REUTER, "Ukraine Tightens Control Over Nuclear Materials."

According to the Interfax-Ukraine news agency, President Leonid Kravchuk has called for increased control over security procedures at Ukraine's five nuclear power plants, putting security forces and the interior ministry in charge of investigating reported incidents of missing or stolen radioactive materials. Earlier in the month the government also established a special body to prevent the illegal export from Ukraine of potentially strategic materials.

12/29/94 - FBIS-SOV, "Officials on Uranium Anti-Smuggling Efforts," originally from BNS (Tallinn), 12/29/94, in English.

Two men were arrested by Lithuanian police in the town of Kaunas with 8 kg of uranium-238, of which 5 percent was uranium-235. Lithuanian police believe that the 8 kg is from a fuel rod that disappeared from the Ignalina nuclear power plant in 1993. According to the police, criminals could have another 100 kg of the uranium.

12/29/93 - PRAVDA, "Scandals: Package Containing Uranium."

According to the Black Sea Internal Affairs Administration Transport Criminal Investigation Department of the Ukrainian Ministry of Internal Affairs, a group of so-called "businessmen" were attempting to export 260 capsules of uranium-235 and -238. The material allegedly originated at a Kazakh firm, and was first transported to Chisinau in a simple lead container. Six people have been detained thus far, two Moldovan citizens and four Ukrainians; the majority of them have been described as "scientific research assistants." Investigators have learned that the price for which they wanted to sell the uranium was U.S.$200,000. [See also JPRS-TND 1/31/94, "Uranium Smuggling Attempt Thwarted," p. 18.]

12/28/93 - CORRIERE DELLA SERA, "Traffico atomico: nei guai direttore di Semipalatinsk."

The director of the Semipalatinsk polygon reportedly has been suspended from his duties on charges that he has allegedly been engaged in smuggling nuclear materials out of the facilities. The materials in question have been vaguely termed "valuable equipment and non-ferrous metals." Testing site facilities in Semipalatinsk were closed by Kazakh President Nazarbaev in 1991, following Kazakhstan's declaration of independence, but operations personnel are still there.

12/27/93 - THE WASHINGTON TIMES, "Radioactive Smuggling Raises Fears of Nukes on Black Market," p. A13.

Peter Kroemer, chief of the environmental crimes unit of the German federal police, has stated that over the course of last year there were 18 instances of radioactive material being shipped into Germany -- presumably from Russia or other former Soviet republics -- for sale on the black market. To date, Kroemer maintains, none of this material has been weapons grade; however, he does not exclude the possibility of such material becoming available in the near future, given the increasing frequency of nuclear smuggling cases.

12/24/93 - L.A. TIMES, "Nuclear Smugglers Caught, Ukraine Says."
The Ukrainian Ministry of the Interior has announced that police apprehended six people who were attempting to smuggle 10 ounces of nuclear materials out of Ukraine. The materials included radioactive materials which are used in nuclear weapons, medicine and the reactors of nuclear power plants, but it was unclear as to whether any of them were weapons-grade. In a related case, 3.3 pounds of radioactive materials were confiscated Wednesday in Kishinev, and a joint investigation is currently underway. [See also THE UKRAINIAN WEEKLY, "Radioactive Contraband Smugglers Caught," vol. 62 no. 2, p. 2, 1/9/94; THE GUARDIAN 12/24/93; SUDDEUTSCHE ZEITUNG 12/24/93; KOMSOMOLSKAYA PRAVDA 12/29/93; AGENCE FRANCE PRESSE 12/23/93, JPRS-TND 1/31/94 (pp. 27 & 31) citing Moscow Ostankino News from 12/25/93]

12/23/93 - NUCLEONICS WEEK, "Fuel Rod Smuggling, Waste Leaks Raise Concerns in Norway."
Norwegian radiation protection officials have expressed concern that nuclear material from the Former Soviet Union may be being smuggled into Norway. One such potential transaction involves three fuel rods apparently stolen from Murmansk, which reportedly contain enough enriched uranium to manufacture up to three nuclear bombs. The Norwegian Customs Service has requested that Geiger counters be provided for checking cars that cross the border into northern Norway. Since the fuel rods are unused, however, they would probably not generate much radiation, making them hard to spot.

12/23/93 - REUTERS, "Six Detained With Radioactive Material."
Ukrainian police arrested six people in Odessa who were trying to smuggle over 10 ounces of highly-radioactive materials out of the country. [See also FBIS 12/23/93, "Attempt to Smuggle Radioactive Material Thwarted," citing Kiev Radio Ukraine World Service in English.]

12/23/93 - JPRS-TND, "Smugglers Caught With 1.7 kg of Uranium," p. 27, originally from AGENCE FRANCE PRESSE in English.
Romanian customs officials arrested five Moldovans who were attempting to smuggle 1.7 kg of pure uranium and 2 kg of red mercury into Romania for sale on the black market. The uranium and red mercury origianlly came from Russia. In 1993, more than 20 kg (44 lbs.) of red mercury and 20 containers of cesium were seized along the Moldova-Romania border.

12/9/93 - IZVESTIYA, "Two Bombs Could Be Made From Uranium Stolen On Kola Peninsula," p. 3.
Norway has expressed concern about the theft of three fuel rods containing enriched uranium from a Kola Peninsula submarine base. It is believed that the criminals could potentially transport this dangerous cargo across the Norwegian-Russian border in the Arctic region, either to hide it somewhere in Norway or to export it to a third country.

12/8/93 - JPRS-TND, "Security Police Prevent Smuggling Nuclear Technology," p. 55, originally from SVENSKA DAGBLADET in Swedish.
Sweden's security police is working in cooperation with other Swedish authorities in order to prevent Sweden from becoming a transit point for illegal traffic in nuclear technologies and radioactive substances. In this connection, customs procedures along Sweden's borders have been

significantly tightened through the use of both fixed installations and mobile equipment. According to the Swedish security police, businessmen with contacts in the East seem to become involved in smuggling due to an exaggerated perception of the prices paid for nuclear and radioactive materials in the West. [See also IZVESTIYA, 12/14/93, "Alarm in Northern Sweden."]

12/8/93 - JPRS-TND, "Radioactive Materials Said Trucked to West 'At Least Once,'" pp. 47-8, originally from Tallinn BNS 11/17/93.

A Lithuanian trucking company from Vievis has allegedly been transporting radioactive materials to the West for the Moscow firm "Mars." Suspicions were aroused when the level of radioactivity in one empty trailer returning from Germany was found to exceed acceptable standards. To date the whereabouts of the trailers' drivers are still unknown. [See also JPRS-TND 12/29/93, "Vievis Firm Suspected of Transporting Radioactive Loads," pp. 50-1, originally from RESPUBLIKA in Lithuanian 11/11/93.]

12/8/93 - JPRS-TND, "Illegal Deals with Radioactive Materials Reported," pp. 53-4, originally from FOCUS 11/8/93 (in German), p. 102.

Although the head of Germany's Federal Office of Criminal Investigation (BKA), Hans-Ludwig Zachert, has stated that to date no weapons-grade nuclear materials have been sold in Germany, FOCUS asserts that this is not the case. The Munich-based publication claims to have information indicating that the BKA knows of several instances in which californium-252 was either offered for sale or confiscated by the authorities.

12/7/93

A Russian scientist has notified the MIIS Center for Russian and Eurasian Studies that he has information, corroborated by Minatom, that an unknown quantity of highly-enriched uranium has been diverted from the "Luch" production association in Podolsk, Russia. It is not known whether authorities have recovered the material.

12/6/93 - THE WALL STREET JOURNAL, "Red Mercury is Hot, but the Question is: What Exactly Is It?"

An overview of the ongoing debate as to what the enigmatic substance known as "red mercury" really is, and what its potential applications might be. [See entries from 5/93 and 7/93]

The Promekologiya concern claims to have signed a $24.2 billion dollar contract with one API International Inc., based in Van Nuys, California, for the sale of 84 tons of red mercury. The substance is reportedly to be injected into oil wells in order to break up clotting and stimulate additional crude. [See also DER SPIEGEL #6, 1994, pp. 80-1]

12/2/93 - SEGODNYA, "Tri kilogramma rtuti v musornom bake."

A resident of Poslannikovskii St. in Moscow recently discovered a container with approximately three kilograms of mercury in a trash disposal unit. According to the Russian Federation Ministry of Security, such finds are becoming increasingly common. It often occurs that people with access to mercury and other substances take them, hoping to make a profit on the black market. If there are no ready buyers, the culprit hastily disposes of the dangerous materials out of concern for his own health, thereby posing a threat to the public welfare.

12/2/93 - MOSCOW OSTANKINO TELEVISION BROADCAST

Three uranium rods (for use in the fuel assemblies of nuclear submarine reactors) were allegedly stolen from a navy base in Murmansk. The case is currently under investigation by the Military Counterintelligence Division of the Ministry of Security.

11/27/93 - REUTER, "Suspected Georgian Uranium Hawkers Held in Turkey."
Turkish police have arrested three Georgians in Bursa for trying to sell 4.5 kg of a substance believed to be uranium. The Georgians were asking a price of $150,000 per kg. The material has been sent to the nuclear energy laboratory in Istanbul for further study. [See also JPRS-TND 1/6/94 pp. 33-4]

11/24/93 - IZVESTIYA, "Vendors of Radioactive Cesium Detained in Volgograd."
Eight people from Volgograd and Volzhskii were detained by the Security Ministry's Volgograd Directorate when it was discovered that they intended to sell two 80-kg containers of cesium-137 on the black market. The cesium originated at a plant in Volzhskii, and each container reportedly had a market value of 1 million rubles.

11/24/93 - REUTER, "Several Detained in Uranium Oxide Smuggling Attempt."
Police in the city of Lublin, eastern Poland, detained several people for attempting to sell 2.5 tons of what was apparently uranium oxide. According to a police spokesman, the material did not have a dangerous level of radioactivity and could not be used in weapons manufacturing. It was discovered on a bus going from Lwow to Warsaw when it stopped at the Ukrainian border town of Hrebenne.

11/16/93 - ENS NUCNET (EUROPE), "Swiss Officials Probe 'Yellow Cake' Case."
On September 28th, police in Zurich canton found a bag containing 10 kilos of natural uranium oxide, known as "yellow cake," alongside the highway running from Zurich to the town of Winterthur. According to a statement issued by the Swiss federal prosecutor's office, the material displayed a low level of radioactivity and therefore posed no threat to the public. An anonymous caller told authorities that he came into possession of the uranium in Zurich, having obtained it from a man of Eastern European background. Police claim that the caller has since been identified, and enquiries continue. [See also CORRIERE DELLA SERA 11/20/93]

11/12/93 - THE WASHINGTON POST, "Nuclear Theft Found at Chernobyl," p. A44.
According to one high-ranking official in charge of security at Ukraine's power plants, such facilities are prone to theft: for example, only one of Ukraine's five nuclear power plants is equipped with isolation doors and electronic passes. Nor is there a registration system restricting access to specific staff members.

11/11/93 - PRAVDA, "With Uranium on Their Backs: New Incidents of Theft of Strategic Raw Materials," p. 1.
A number of newly-reported transactions involving strategic raw materials were discussed at a briefing given by the Moscow Internal Affairs Main Administration. In one instance, a Russian citizen allegedly brought uranium-235 -- wrapped only in aluminum foil -- from Yekaterinburg to Moscow on public transportation. In another case, 300 tons of magnesium-90 ingots stolen from the storeroom of the Russian Federation State Reserve (worth some 146 million rubles) were detained while en route to a commercial organization in Kaliningrad oblast on tractor-trailers supposedly belonging to Lithuanian companies. [See also JPRS-TND 12/8/93, p. 46]

11/9/93 - UNCLASSIFIED REPORT FROM THE U.S. DEPARTMENT OF ENERGY ON BELARUSIAN DELEGATION ATTENDING WORKSHOP (SEPT. 13-17, 1993) ON TECHNICAL ASPECTS OF THE INTERNATIONAL NON-PROLIFERATION REGIME.
According to V.G. Pasko, co-head of the delegation and head of non-tariff regulation for the State Committee for Foreign Economic Relations,

the main security issue for Belarus has become the transhipment of sensitive materials through the country. The Institute of Nuclear Problems (INP), he said, is now seeking to develop the equipment needed to make detection possible at the borders. In some cases, programs set up in conjunction with the U.S. Customs Service have already made such detection possible. The director of the INP is now actively striving to obtain U.S. assistance in developing technologies capable of detecting fissile materials, highly-explosive substances and other materials.

11/8/93 - NUCLEAR FUEL, "Ex-Soviet Nuclear Material Smugglers Lack Professionalism, BKA Chief Says."

According to the head of the Bundeskriminalamt (BKA), Germany's federal bureau of investigation, "smuggling of nuclear goods into Western Europe from the former Soviet bloc... satisfies five of six criteria that...permit this activity to be considered under the rubric of organized crime." Namely, an illicit activity is considered to constitute organized crime "if it is carried out in a highly professional manner; if there is evidence of corruption; if there is conspiracy; if at least 50% of those involved are foreigners; if threats of violence are made; and if there is an overwhelming profit motive." The one missing link, apparently, is the first of these criteria, professionalism.

"The international, conspiratorial nature of ex-Soviet nuclear smuggling is evident," according to the BKA head. Typically, "a dealer in Poland will bring materials into Germany, from there into Austria, then have a meeting in Switzerland, and hire a fence in Hungary."

11/5/93 - PRAVDA, "Krazha v Chernobyle."

Two fuel rods (TVELs) were stolen from the core of Chernobyl nuclear power plant. The plant's managers have offered 10 million karbovantsy (Ukraine's new currency) to anyone who can assist in locating the missing items. [See also UNIAR (in Ukrainian), 11/1 and 11/12]

11/4/93 - NUCLEONICS WEEK, "NPT Ratification Papers to be sent to Kazakhstan Parliament this year."

An IAEA official who participated in the technical visit made to the Ust-Kamenogorsk plant has stated that large amounts of nuclear materials remain unaccounted for, and that "uranium dioxide pellets were leaking all over the place." Earlier this year, for example, British television carried an unconfirmed report to the effect that significant quantities of uranium and beryllium from the facilities at Ust-Kamenogorsk had been sold to Iran. Vladimir Shkolnik, head of the Kazakhstan Atomic Energy Agency, has commented that the Republic of Kazakhstan "needs equipment and technologies to reduce uncertainties in materials inventories" and establish an effective system of safeguards.

11/4/93 - FBIS-CENTRAL EURASIA, "Political Link, Threat from Missing Chernobyl Fuel Denied," originally from KYYIVSKYY VISNYK in Ukrainian 10/28/93.

Summary of interview with Mykola Sorokin, director of Chernobyl nuclear power plant: The theft of the fuel rods was discovered during routine work in the fuel processing and storage areas; the two rods had been "neatly cut out" of the fuel assembly. According to Mr. Sorokin, the radiation level can become dangerous only when the fuel rod unit (or "cassette," in specialists' jargon) is irradiated in the reactor. Otherwise, individual fuel rods do not emit sufficient radiation to constitute a threat.

10/30/93 - KIEVSKIE VEDOMOSTI, "Propazha iadernogo topliva."

According to an official statement made on October 26th by N. Sorokin, director of Chernobyl nuclear power plant, in conjunction with the heads of the State Committee on Atomic Energy Usage, the public should not be overly concerned about the recent disappearance of two fuel rods from the Chernobyl plant: such rods contain only 1.8% uranium-235 (about 260 g). The remaining portion consists of uranium-238, which means that each rod has less than 3.5 kg of actual nuclear fuel. [See also RUSSIA & CIS TODAY no. 0772, p. 9, "Propazha iadernogo topliva" from NOVOSTI News Program 10/28/93.]

10/21/93 - JPRS-TND, "Lithuanains Confiscate Radioactive Material on Polish Border," p. 68.
Polish customs officials arrested M. Yanchenkov at the Lithuanian border, in possession of a flask containing what is believed to be radium. Yanchenkov was formerly stationed at a former Soviet Army base in Siauliai.

10/19/93 - SEGODNYA, "Propal gruzovik, polnyi isotopov."
A truck loaded with containers of environmentally-dangerous radioactive materials was recently stolen from the Tbilisi Geophysical Institute. The whereabouts of the truck are as yet unknown; authorities know only that the parties involved in theft were armed and wearing military uniforms.

10/7-9/93 - MILLIYET (in Turkish), "Turkish Forces in Anti-Smuggling Operation," "Key Man in Smuggling Operation Identified," "Fifth Iranian Said Involved in Smuggling," "Background on Turkish Uranium Smuggler."
Istanbul allegedly has become a center for sales of "red mercury," which reportedly is being produced in Kazakhstan at the Ust-Kamenogorsk facilities, among other sites, and smuggled into Turkey by various routes. Uranium from northern Iraq also appears to be making its way to Istanbul, often by way of Romania or Bulgaria.

Istanbul Finance Branch squads claim to have apprehended the key figure acting as a middleman in bringing uranium from Russia to Turkey, an Iranian citizen by the name of Turker Gelendost. In a press release issued by the Cekmeci Nuclear Research Center, a spokesman emphasized that the enrichment level of the uranium was too low for it to be used to build an atomic bomb. Another Turkish businessman involved in the case was a former member of the Istanbul Chamber of Commerce. [See also DEUTSCHE PRESSE AGENTUR 10/7/93]

10/93
International pressure on Russia has been steadily mounting in the wake of the discovery that Russia -- apparently, without adequate warning -- dumped some 900 cubic meters of waste into the Sea of Japan. Criticism was harsh from Tokyo, Seoul and Washington. The wastes involved were coolants and cleaning fluids from nuclear submarines being refitted or gutted at the formerly-secret naval base at Bolshoi Kamen (near Vladivostok). Russia claims that it has to dispose of the wastes at sea since on-land storage areas are already full to capacity. However, such dumping is in violation of the London Convention [1985], which provides for a global moratorium on disposing of radioactive wastes. [Sources: REUTERS 10/20/93 and ASAHI SHIMBUN from the week of 10/17/93.]

9/17/93 - JPRS-TND, "KCNA Denies Reports Of Uranium Ore Smuggling," p. 18, originally from Pyongyang KCNA 9/6/93 in English.
South Korea's Radio no. 1, quoting a false report from the Russian State Television and Radio Broadcasting Company Ostankino, allegedly has started a groundless rumor to the effect that North Korean lumberjacks working in the Khabarovsk area have been smuggling uranium ore out of Russia. The account claims that this is sheer fabrication: investigation has revealed that the lumberjacks do not even know whether or not there is a uranium mine in the Russian Far East, so they could not possibly be

smuggling uranium ore from the region.

9/14/93 - UNCLASSIFIED DEPARTMENT OF ENERGY MEMORANDUM on "Reports of Theft and Smuggling of Nuclear Material in the Former Soviet Union."

The events cited include the following:

(1) A gamma radiation unit with cesium-137 mysteriously disappeared from the production association Khimprom in Ukraine [KIEV HOLOS UKRAINY 7/24/93].

(2) According to the BBC, a group of smugglers who had been stealing nonradioactive stable isotopes from the Elektrokhimpribor facilities in Sverdlovsk-45 have been apprehended [8/6/93].

(3) Some 90 kg of tungsten have been stolen from the Northern Machine-Building Enterprise, the world's largest nuclear submarine plant, according to a report on Moscow Russian Television Network [8/21/93]. 73 kg of the substance were discovered in one worker's apartment, and there is evidence that approximately 20 kg have already been sold to the Baltic States.

(4) The Associated Press reports [8/28/93] that a man has been arrested for trying to sell 10 pounds of uranium outside the Kurchatov Institute. The source and destination of the material remain undisclosed, as is the extent to which the uranium was enriched.

(5) Hanoi police arrested a Vietnamese man for bringing about 10 kg of uranium back to Vietnam from the former Soviet Union, where he had been working [JAPAN ECONOMIC NEWSWIRE 8/28/93].

9/13/93 - NUCLEAR FUEL, "Smuggling of Soviet Origin Material is Escalating, Crime Agencies Say."

The German Bundeskriminalamt reported 158 cases of nuclear material smuggling in 1992, as compared with 41 in 1991 and 4 in 1990. Chancellor Kohl underscored the priority attention due to such cases by scheduling a high-level meeting on the subject [scheduled for 9/10/93] with officials from various ministries. German authorities apparently believe that nuclear materials are making their way into Europe from the FSU by way of the former Soviet army's air transports. Materials are reportedly flown to the military command center of the Western Force Group (WGT) at Wuensdorf and then shipped by land to Italy, Austria and Switzerland. Furthermore, officials believe that WGT Commander-in-Chief Matvey Bulakov is directly involved in the smuggling, despite the fact that he has flatly denied such allegations. [See also PROGRAMME FOR PROMOTING NUCLEAR NON-PROLIFERATION NEWSBRIEF, 3rd quarter 1993.]

9/2/93 - NUCLEONICS WEEK, "Soviet Isotope Smugglers Arrested in Germany, Finland."

Two Finns and two Russians were recently arrested in Espoo for smuggling about 1 gram of radioactive californium-235 from the FSU, believed to have originated at the Tomsk-7 nuclear complex in Siberia. An Estonian was also arrested in connection with the case. According to the Finnish police, the material was being smuggled from Russia through Estonia to Finland, with Germany being the final destination.

8/28/93 - KOMMERSANT-DAILY, "Trader In Radioactive Metals Arrested. Attempt To Sell Innards Of An Atom Bomb In Moscow," p. 21.

The director of the KONFORM Limited Liability Partnership from St. Petersburg has been arrested during an attempt to sell a container of radioactive materials. The individual in question claimed to have acquired the container some time ago on the street.

8/27/93 - MOSCOW NEWS, "Nuclear Analysis by General Yevstafyev of the Russian Intelligence Service."

According to General Yevstafyev, an expert in the fields of nuclear non-proliferation and arms control, there are grounds for concern that proliferation of nuclear materials might occur in Russia: the military-industrial complex has lost much of its former clout and prestige, the so-called "closed" cities are undergoing considerable financial difficulties, and secrecy standards are deteriorating. To date, however, no concrete evidence has been produced pointing to actual illegal transactions involving uranium, plutonium and nuclear technologies. In order to prevent the occurrence of such transactions, existing legal means of export control need to be further developed and consistently enforced.

8/16/93 - NUCLEAR FUEL, "Watchdogs Say Minatom Withholding Material Theft and Diversion Data," pp. 1, 11-13.

Officials at Gosatomnadzor (GAN), the regulatory body set up by President Boris Yeltsin to establish a national safeguards system, stated that although the Ministry of Atomic Energy has confirmed that some nuclear material has been diverted, the Ministry is refusing to disclose any "quantitative information" or "facility-related details." GAN's efforts to establish safeguards have been hampered by inter-ministerial disagreement. Minatom head Viktor Mikhailov is said to object to safeguards because training hundreds of personnel in material accountancy would strain ministry resources. There is presently no reliable central data bank on nuclear material inventories. A draft law to compile such a bank was submitted to the Supreme Soviet in 1992, but as that body is dominated by an anti-reform faction, the parliament is not expected to consider the draft until 1994. Until the law is passed, all progress on safeguards must be accomplished by ad hoc executive decree. Under the Soviet system, little attention was paid to accountancy figures. However, that information became extremely valuable as the former republics were exposed to hard-currency markets for uranium, heavy water, zirconium, beryllium, and other strategic nuclear materials. Now, concrete information about missing material is being "used to blackmail plant-level management and Moscow officials who continue to maintain that no significant material diversions have occurred."

8/11/93 - NOVOE RUSSKOE SLOVO, "Khischenie redkozemel'noe i tsvetnoe."

According to the Russian Federation Ministry of Foreign Affairs, a member of the Siberian branch of the Academy of Sciences was recently arrested in connection with an attempt to smuggle 12 kg of enriched uranium out of Russia. Nine other people were subsequently arrested, five of whom are already facing charges. The leader of the group was Dmitrii Shikhalev, a businessman from Novosibirsk, and the heads of the cooperatives "Amplituda" and "Stella" were also among those arrested. Authorities confiscated 34 kg of silver, 125 kg of zirconium and 12 tons of titanium.

8/4/93 - FBIS-CENTRAL EURASIA, "Citizens in Khabarovsk Allege DPRK Loggers Steal Uranium," p. 4, originally from VLADIVOSTOK RADIOSTANTSIYA TIKHII OKEAN in Russian, 8/3/93.

According to residents of the Khabarovsk Region, loggers from North Korea have been taking uranium from sealed concrete adits in this area and transporting it back to North Korea.

8/93 - REPORT ON THE PRELIMINARY RESULTS OF TESTING A SAMPLE RECEIVED FROM THE RUSSIAN SECURITY MINISTRY'S DEPARTMENT FOR COMBATTING CORRUPTION AND ILLEGAL TRAFFICKING.

An unknown substance was discovered by Western sources and sent to the military lab NPO RADON for spectrometrical tests, which indicated that it was highly radioactive, highly poisonous weapons-grade plutonium.

7/27/93 - JPRS-TND,"Police Find Radioactive Material from Ukraine in Saarland" originally from HAMBURG DEUTSCHE PRESSE AGENTUR 7/17/93.

The Saarland Criminal Investigation Office has announced that police in Saarbrucken found three plastic bags containing radioactive materials -- believed to be strontium-90 -- hidden near a railway underpass. The materials appear to have originated in Ukraine, and were traced during the investigation of a 37-year-old businessman from Saarbrucken who has reportedly been selling them in Germany.

7/24/93 - HOLOS UKRAYINY, "Who Needs Irradiation?"

According to an anonymous report, a gamma radiation unit containing cesium-137 has allegedly disappeared from the Sumy production association KHIMPROM. A search for the unit is currently underway, and a reward has been offered to anyone who can provide relevant information. [See also JPRS-TND 8/2/93]

7/22/93 - NUCLEONICS WEEK, "'Red Mercury' is Lithium-6, Russian Weaponsmiths Say," p. 10.

The name "red mercury" is a code word used in the USSR nuclear weapons program since the 1950s to describe enriched lithium-6. Lithium-6 has two nuclear weapons uses: as a reactor target for production of tritium, and in the form of lithium-6 deuteride as a thermonuclear weapon material. The most common production process uses large amounts of mercury as chemical agents. The code name originated because mercuric impurities contaminate the lithium-6 during production, giving it a red color. "Red mercury" has been identified by many European media reports as "any of several simple mercuric compounds and tinctures offered for sale by Russian and European agents," but none of these had any nuclear value. The uses for lithium-6 are consistent with claims about the uses of "red mercury." The USSR built a large complex in the early days of their nuclear weapon program to produce and stockpile lithium-6. Some was also supplied to China in the 1950s. Russian and Western officials have both stated that no lithium-6 from Russian or Chinese inventories has been diverted since the disintegration of the USSR.

7/21/93 - NOVAYA YEZHEDNEVNAYA GAZETA, p. 3

The investigative service of this daily paper claims to have uncovered a sophisticated network of illegal trade in rare earth metals, platinum, beryllium, osmium isotopes and red mercury. These traders are often said to have good connections with industry officials. The journalists describe a number of instances in which, by posing as potential buyers, they were able to obtain information about the illegal market for nuclear materials.

In one such instance, for example, a worker from an uranium enrichment plant showed the journalists a 10-kg sample of uranium-238 pellets, claiming that more could easily be obtained. In another case, weapons-grade plutonium from Ryazan was brought to Moscow in a Ukrainian gasoline truck.

7/16/93 - IZVESTIYA, "Plutonievaya 'bomba' iz Rossii v Londone ne vzorvalas'," p. 6.

Reports that British journalist Roger Cook intended to fashion a small bomb from a consignment of 25 kilograms of supposedly weapon-grade plutonium which he said he obtained on the Russian black market generated no particular interest on the part of nuclear experts. This article points out that Cook's story was not well documented, in as much as very little information was given about how and where the plutonium was obtained. Additionally, it seems Cook reported that all 25 kilograms of the plutonium-239 were placed in a single container, whereas only six kilograms of such material constitutes critical mass. The name of the dealer, who lived somewhere on the outskirts of Moscow, was said to be "Gennadi."

7/14/93 - REUTERS, "Russian Dealers Selling Plutonium - Finnish Paper."

The Finnish newspaper ILTAHLETI wrote that Russian dealers recently offered its reporters bomb-grade plutonium, a sample of which was proven to be genuine by a laboratory test. The reporters said they contacted the dealers together with British and German television reporters. One of the dealers, "Gennadi," stated that he could deliver 15-16 kilograms of plutonium-239 in 10 days. He also offered two "-20 missiles with built-in warheads. The agreed price for the plutonium was $15 million per kilogram. Gennadi said that an advance of $100,000 was needed to pay scientists in restricted towns where strategic weapons dismantlement was taking place.

7/13/93 - COMPUSERVE-EXECUTIVE NEWS SERVICE from UPI, 7/13/93.
Arzamas-16 director Vladimir Belugin claimed that "Saddam Hussein's people" had offered the center $2 billion for a nuclear warhead.

7/9/93 - REUTERS, "Estonia Arrests Swedes Who Had Radioactive Material."
Estonian police arrested two Swedish men for allegedly smuggling a 28 kilogram lead container off cesium-137 onto a ferry from Estonia to Sweden.

7/9/93 - IZVESTIYA, "Experts Dismiss Claims on Plutonium Black Market."
British journalist Roger Cook was reportedly offered in Moscow 25 kilograms of plutonium suitable for producing nuclear weapons. An unidentified Moscow laboratory which purportedly tested a sample of the consignment verified that the material was weapon-grade. Apparently Cook intended to fashion a small bomb out of the material and detonate it on his television program. Russian experts discount the seriousness of the claim, pointing out that all 25 kilograms may not have been of the same quality as the sample. [See also JPRS-PROLIFERATION ISSUES 7/9/93, pp.7-8]

7/6/93 - VIENNA KURIER (in German), "Officials Seize Radioactive Material."
Austrian Interior Ministry Officials apprehended three would-be nuclear smugglers near a supermarket in Schwechat. They had in their possession 1.5 kg of radioactive material. [See also JPRS-TND 7/12/94, p. 28.]

7/1/93 - PRAVDA, "Red Mercury Seen as a 'Fiction Used in Money Laundering Scam.'"
Major General Aleksandr Gurov, director of the Security Ministry's Scientific Research Institute of Security, said that "red mercury" is a slang term for "oxide of mercury." [See also JPRS-PROLIFERATION ISSUES 7/12/93, p. 23.]

6/30/93 - PRAVDA, "Specialists Arrested for Selling Isotopes Abroad," p. 1.
12 specialists "who took part in" the production of rare earth elements such as thallium, palladium, rubidium and others were arrested for the illegal sale of the materials. The group, some members of which have "academic titles," originated in Sverdlovsk-45. The Stabiks isotope stabilization center is implicated in the affair. [See also FBIS-CENTRAL EURASIA 7/1/93, p. 42.]

6/25/93 - ROSSISKAYA GAZETA, "Glazyev on Corruption, Need for Export Controls," p. 3.
Glazyev, the Russian minister of foreign economic relations, reports that in 1992, over 6,000 crimes were uncovered which involved the illegal export of strategic raw materials. [See also FBIS-CENTRAL EURASIA 6/29/93, p. 42-3.]

6/23/93 - KIEVSKIE VEDOMOSTI, "Ukraina -- mezhdu dvumia ogoniami."
Customs officials in the Ukrainian port of Ilichevsk detained a shipment of a major rocket fuel component that was being sent from Russia. Four 20-ton containers of ammonium perchlorate, the property of the joint stock trading company "Pavox," left Novorossiisk bound for Varna in Bulgaria. It was the American Embassy in Ukraine which alerted customs

authorities that the cargo was ultimately destined to fall into the hands of Libyan scientists working to develop their country's missile program.

6/14/93 - PROLIFERATION ISSUES, "Radioactive Substance Discovered; Ukraine Named as Source," pp. 8-9 originally from STANICE PRAHA RADIO NETWORK 6/9/93.

West Slovak police have found a container of an unidentified radioactive material. The Slovak Interior Ministry values the substance at 100 million korunas. The Slovak police said the material was of Ukrainian origin.

6/14/93 - PROLIFERATION ISSUES, "Chechenis Said to Traffick Uranium Via North Cyprus," p. 26, originally from I SIMERINI 6/7/93, p. 18.

This Greek newspaper reports that Checheni nationals in the Russian mafia are trafficking uranium stolen from the Russian army with the protection of the President of North Cyprus, Rauf Denktash. The Checheni officials have been linked to arms and uranium dealers Asil Nadir and Adnan Kashoggi. The uranium is reportedly transported through Istanbul to European and Eastern countries.

6/7-13/93 - KOMMERSANT, "Zvezdnyi Put'," p. 28.

It was reported in June 1993 that "not long ago" Russian police stopped a group of 10 smugglers trafficking in rare-earth elements and strategic materials. The group was arrested after attempting to take 12 kg of enriched uranium out of the country. The gang had been led by Dmitri Shikhalev, a Novosibirsk businessman. Other members included a worker at the Siberian branch of the Russian Academy of Sciences and two owners of cooperative businesses. The group reportedly was found in possession of 34 kg of silver, 125 kg of zirconium and 12 tons of titanium. The materials are believed to have been stolen in 1992 from one of the defense industry complexes in Novosibirsk.

6/5/93 - THE ECONOMIST, "Uranium, plutonium, pandemonium."

A grim picture emerges of the so-called "dark side of disarmament." The control regime for nuclear weapons materials is being severely strained by the disarmament treaties ratified by the United States and the former Soviet Union, which have only served to free up nuclear devices that were once contained by superpower arsenals, and nuclear smuggling is on the rise.

According to the author, "The snag with disarmament, for all its other merits, is that it disrupts the established Soviet routine... Weapons will be broken open and the plutonium and uranium stockpiled or processed. This material will be passed to civilian inventories controlled by Minatom, the ministry of atomic energy; counting bombs will give way to accounting for material. There is no systematic connection between the two inventories." One further disturbing development is the fact that Gosatomnadzor, the regulatory body entrusted with handling civil and military materials, has apparently been denied access to certain military stockpiles of nuclear materials.

6/4/93 - MOSCOW NEWS #23, "Looking for a Bomb, Finding Radiation."

THE BALTIC INDEPENDENT has reported that in answering a false bomb threat called into the Lithuanian Shareholders' Innovation Bank in Vilnius on May 24th, the local police discovered some 20 sealed containers emitting radiation. They contained irradiated beryllium, which is allegedly worth more than $10 million and has applications in both nuclear power engineering and nuclear missiles.

6/93 - ARGUMENTY I FAKTY #26, p. 4.

Russian Federation Vice-President Aleksandr Rutskoi has accused the

Russian firm Promekologiya of illegally exporting "red mercury." The firm's president, Oleg Sadykov, insists that Promekologiya has filed all the correct documents and notified all necessary officials. He says that it is only because of other, illegal exporters that the government has rescinded its approval of Promekologiya's exports.

5/28/93 - KOMSOMOLSKAYA PRAVDA, p.1.
Ten radioactive isotopes and their "technical passports" were stolen from the Nikitovskii mercury production facility. Six men were arrested in connection with the incident.

5/23/93 - MOSKOVSKIE NOVOSTI, "Nuclear Materials Reportedly Smuggled to Middle East," p. A5.
Investigations into the theft of uranium from an Udmurtia plant have uncovered an "entire international syndicated comprising Russia, Belarus, the Baltic states and Poland" which transships uranium-238 to Western Europe. The plant has been identified as the Chepetsk Mechanical Plant. [See also FBIS-CENTRAL EURASIA 5/26/93.]

5/22/93 - THE ECONOMIST, "Fools' Mercury," p. 70.
Oleg Saldykov, president of the Yekaterinburg company Promekologiya, said that he has a contract to sell 84 tons of "red mercury" over the next three years to an American company called API International. The deal is worth $24.2 billion. Russian President Boris Yeltsin signed a "secret decree" in February of 1993 granting Promekologiya the right to export the material, but permission was revoked on March 20, 1993.

5/21/93 - PROLIFERATION WATCH vol. 4, no. 3.
The Main Military Prosecutor's Office of the Russian Federation has instigated criminal proceedings against former Russian Deputy Prime Minister Georgii Khiza on the grounds that he was engaged in smuggling surface-to-surface and air-to-air missiles to South Africa.

5/17/93 - ITAR-TASS
Yevgenii Primakov, director of the Russian Foreign Intelligence Service, has announced the signing of an agreement between Russian intelligence and the Czech Ministry of Foreign Affairs for the purpose of preventing the smuggling of nuclear materials from the former Soviet Union to Europe. The Czech Republic appears to have become a middle ground for smugglers, and as early as 1991 there were cases of Czechoslovak citizens being arrested in Austria for possession of Soviet-produced U-235.

5/15/93 - WASHINGTON POST, "Nuclear Goods Traded In Post-Soviet Bazaar," pp. A1, A18, by Steve Coll.
Two citizens of Kazakhstan were arrested in Germany while trying to sell LEU fuel pellets that had been fabricated at Ust-Kamenogorsk.

According to Western officials and police, poor export controls in the non-Russian former Soviet republics has encouraged nuclear smuggling. A senior IAEA official stated that the agency found a "very rudimentary system" of material control and accounting in all of the non-Russian republics.

5/12/93 - IZVESTIYA, "Ukraina postavila Irany vosem' krylatykh raket," p.3.
According to data collected by British and American intelligence reported in the Egyptian newspaper AL-AKBAR, Ukraine supplied Iran with eight cruise missiles. From Iranian borders, the missiles are capable of reaching any site along the Strait of Hormuz, which connects the Persian Gulf with the Indian Ocean. The transfer was apparently part of an agreement between Ukraine and Iran to "modernize the army of the Islamic Republic of Iran."

5/6/93 - RUSSIA & CIS TODAY (In Russian), p. 6 from TELEMIKST TELEVISION PROGRAM, "Promekologiya predyavlyayet isk Aleksandru Rutskomu."

Krivinyuk, chief engineer of the Promekologiya concern accused by Pravda of illegally exporting 'red mercury' in collusion with Yeltsin's administration, confirmed the existence of the material, but stressed that Promekologiya has not exported a gram of the material. The proceeds from 'red mercury' exports were to be spent on various environmental projects. The Pravda publication will cost Russia several billion dollars in damages.

5/4/93 - JPRS-TND-93-012, "25 Kilos of Cesium-137 Isotope Discovered," p. 9, originally from PAP 4/30/93.

Gdansk police found twenty-five kilograms of cesium-137 in a ceramic container bearing cyrillic lettering buried in Poland five kilometers from the Russian border.

4/30/93 - KOMSOMOLSKAYA PRAVDA, "Rtut' tsveta partbileta," p. 3.

The article acknowledges the allegations made in the 4/19/93 issue of PRAVDA, and states that the "red mercury" campaign unleashed by the neo-Communist forces could seriously hurt Russia's national interests and endanger the $24 billion contract signed by Promekologiya on March 17, 1993, which provides for supplying a total 84 tons of "red mercury" to Western companies over the period of three years. Russia would lose a major source of hard currency, while many governmental defense conversion, power generation and environmental projects to be financed by Promekologiya would be stalled. Unregulated exports of "red mercury" to the totalitarian regimes would create tension in Russia's relations with the West, while the former Communist Party elite would remain the main beneficiary of the "red mercury" exports.

4/29/93 - REUTER, "Russia clamps down on exports of nuclear materials."

The Russian parliament approved a new law on Thursday banning exports of materials that could be used to make nuclear or chemical weapons. Those found guilty will face a jail sentence of up to eight years and stiff fines.

4/25/93 - WARSAW VOICE, "Nuclear Smuggling in the Czech Republic: Cracking Down on Loose Nukes."

Police in Vienna arrested two Czechs, one Austrian and four Hungarians for allegedly transporting uranium which reportedly originated in the former Soviet Union. The article explains that most of the materials in such cases are stolen from power plants, laboratories and weapons bases in the former USSR, and are then smuggled into Switzerland for analysis in illegal labs. The material is then routed to Western or Middle Eastern countries.

4/18/93 - MOSCOW NEWS, "Radioaktivnaya torgovlya," p. 15A.

Polish security operatives arrested three traders in radioactive materials. The agents seized three kg of uranium at the car belonging to one of the suspects. The uranium is thought to have originated in the former Soviet Union.

4/17/93 - PRAVDA, "Yeltsingate," p. 3.

Primakov, director of the Russian Foreign Intelligence Service, along with Burbulis, First Deputy Prime Minister and President Yeltsin are accused of suppressing all information about the 'red mercury' (identified as Hg2Sb2O7), while selling it abroad for hard currency. The memorandum prepared by Primakov for Burbulis outlines the huge potential for exporting "red mercury," a super-conductive material used for producing high-precision conventional and nuclear bomb explosives, "stealth" surfaces and self-guided warheads. The memorandum also provided market rate for one gram of the material (from $320 to $380).

Primakov has advised Burbulis that the "red mercury" was being illegally exported through various intermediaries in Eastern and Central Europe (e.g. the Hungarian company Ferrometa KFT). Primary end-users are major aerospace and nuclear-industry companies in the USA and France along with the nations aspiring to join the nuclear club, such as South Africa, Israel, Iran, Iraq and Libya. On the basis of the memorandum, President Yeltsin signed Decree No.75-rps "On the Promekologiya Concern" on February 21, 1992, which gave that company exclusive rights to storage, transportation and exports of "red mercury." The annual export quota for Promekologiya was set at 10 tons. Apart from that, the company was exempted from taxation. Sadykov, President of Promekologiya, responded with a letter urging tight regulation over unsanctioned "red mercury" exports, conducted mostly by former KGB operatives and Communist Party apparatchiks. Sadykov also emphasized that his company has already received over $40 billion in orders from various major companies abroad. On March 20, 1993, President Yeltsin nullified the decree "On the Promekologiya Concern," allegedly in order to prevent any public scrutiny of the operation.

4/16/93 - PROLIFERATION ISSUES, "Prominent Businessman Accused of Uranium Trafficking," p. 22 from CTK 3/30/93.

Slovak police arrested three Rumanian businessmen for possession of approximately 3 kilograms of uranium-235 and -238 that was of Russian origin.

4/16/93 - PROLIFERATION ISSUES, "Cesium-137 Isotope Stolen Again in Estonia," p. 53 from BALTFAX 3/29/93.

In a heist identical to one in the fall of 1992, a piece of equipment containing cesium-137 has been stolen from the Slantsekhim corporation in Kokhtla-Jarve, Estonia.

4/16/93 - PROLIFERATION ISSUES, "Police Detain Thieves," p. 53 from BALTFAX 4/6/93.

Estonian security police detained two men for possession of 2.8 grams of cesium extracted from a piece of equipment stolen from the Slantsekhim plant in Kokhtla-Jarve. They had intended to sell the material for $9,000 per gram.

4/15/93 - NUCLEONICS WEEK, "Radioactive Materials Smuggling Defies Customs' Attempt to Halt It," p. 15.

Swedish customs officials have warned businesses dealing in scrap metal to be on the alert for offers from the former Soviet Union. In 1992, for example, a Swiss firm offered one Swedish businessman 500 grams of cesium-137 for US $60,000 per gram; it is believed that the cesium originated in the former Soviet Union.

It is anticipated that Ukraine, in particular, will experience an increasing number of thefts of nuclear materials: Russia remains unwilling to accept fuel from Ukraine, whose stockpiles therefore continue to grow. (To date Ukraine has no reprocessing or disposal facilities.)

4/15/93 - IZVESTIYA, "Komu prednaznachen iadernyi gruz - poka taina," p. 1.

Ukrainian customs agents seized 80 tons of an undisclosed type of nuclear fuel in the port of Ilyichevsk. They found no export licenses for the cargo, only railway transport documents. According to Reuter agency's version, this cargo--a chemical used for producing rocket fuel--was bound for Libya.

4/13/93 - DAILY TELEGRAPH, "Safety Fear in Lithuania as Uranium Disappears."

More than 600 pounds of uranium and strontium have disappeared recently from the Ignalina nuclear power plant in Lithuania. Police are also looking for 221 pounds of uranium-238 stolen from the industrial town of Panevezys, Lithuania. They have arrested Raimondas Urbonas, who admitted to smuggling 221 pounds of uranium from Russia to Lithuania to be sold in Poland. Urbonas said that, afraid of being caught, he dumped the material into a river. Prosecutors believe that he is lying, and that the material has already been sold. [See below REUTER 1/13/93.]

4/9/93 - REUTER, "Illegal Uranium Dealers Held in Poland."

In Rzeszow, a southern province of Poland, three people were arrested on 4/8 for trying to sell 3 kg of uranium of foreign origin. According to the Polish Deputy Interior Minister Jerzy Zimopwski, there were 100 attempts to smuggle radioactive material through Poland in 1992, as compared with only 30 in 1991.

4/6/93 - KOMSOMOLSKAYA PRAVDA, "Kurit - vredno," p. 1.

Employees of the Orel branch of the Moscow Instrumentation Research & Development Institute tried to sell 75 grams of plutonium smuggled from their Institute for $100,000. The local police filed a criminal suit against them.

4/6/93 - JPRS-TND, "Police Detain Theives," originally from Baltfax, in English.

The Estonian security service arrested two employees of the mineral fertilizers plant of the Slantsekhim industrial association in Kokhtla-Yarve for stealing a device containing cesium-137. The two men extracted the 2.8 grams of cesium from the device and were going to sell it at $9,000 per gram.

4/1/93 - LONDON TIMES, "Slovakia Uranium Suspects Go Free."

Two men arrested on charges of illegally handling weapons-grade radioactive material, which the Czech news agency CTK said was of Russian origin, were released after prosecutors failed to make a case against them within the 24-hour period stipulated by Slovak law.

4/93 - NUCLEAR NEWS

Managers at the Ignalina plant in Lithuania have dismissed speculations by the press that some 200 kg of "missing" low-enrichment uranium has been stolen. The LEU consisted of fuel assemblies for the plant's RBMK reactors. At a press conference, the managers said they expected the uranium to be found, or that an accounting error was responsible for the "loss."

4/93 - BULLETIN OF THE ATOMIC SCIENTISTS, "Retrofit Russian Research Reactors."

Given the increasing likelihood of attempts to smuggle enriched uranium out of the former Soviet Union, the United States and Russia should work together to improve safety measures.

3/31/93 - JPRS-TEN, "Cesium Containers Detained in Taganrog," originally from MOSCOW TELEVISION NETWORK 3/22/91.

It is believed that a small company in Taganrog intended to sell two containers of radioactive cesium-137 for approximately $80,000.

3/30/93 - THE GUARDIAN, "Rise in nuclear smuggling poses threat to the West."

At a conference on organized crime and terrorism in the former Soviet Union held in Warsaw on 3/29/93, Peter Kromer from the German Federal Investigation Office stated that there has been a "large increase" in cases of radioactive material being smuggled from the former Soviet Union into both Eastern and Western Europe. About half of the suspects in these cases are reportedly from Poland or the CIS. Kromer also said that there is no real market for such materials in either Germany or Europe as a whole.

3/22/93 - PROLIFERATION ISSUES, "Dealers Arrested," p. 18

Three residents of the Gdansk area (Poland) were arrested on 3/5 for attempting to sell half a kilogram of radioactive uranium oxide. Six kilograms of U-238 were also confiscated at the time of the arrest.

3/19/93 - KRASNAYA ZVEZDA, "Kosmicheskie tainy po bolshomu sekretu," p. 3.

The Leningrad-based Central Machine-building design bureau, along with the Moscow 'Krasnaya Zvezda' Scientific-Production Association, Obninsk Physics & Power Institute and the Kurchatov Institute of Nuclear Energy, developed a light-weight 40 KW space propulsion reactor, alternately referred to as 'TEU-5', 'Topol', 'Topaz-2' and 'Yenisei'. The organizations above signed a contract with the U.S.A. for delivering four demonstration samples.

3/19/93 - MOSCOW NEWS, p. 9.

Citing sources at Kazakhstan's "nuclear center," the BBC reported that an Iranian delegation had visited the republic in an attempt to purchase components for "nuclear units."

3/19/93 - KOMSOMOLSKAYA PRAVDA, "Ne vse khorosho, chto plokho lezhit," p. 4.

Three containers with cesium-137 weighing a total of 16 kg were stolen from the Petrovsky Plant in Dnepropetrovsk.

3/10/93 - SEGODNYA, "Krast' uran ne nuzhno, on togo ne stoit," p.7.

A seven-meter-long fuel assembly with low-enriched uranium-238 weighing over 280 kg was stolen from the Ignalina nuclear power plant in Lithuania. It is estimated that the assembly also contains roughly 2 kg of strontium and three to five kg of plutonium. These radionuclides, however, are very hard to extract. Experts at the Russian Ministry of Nuclear Power and Industry believe that the assembly was stolen by an employee of the Ignalina plant, who wanted to resell uranium. The employee acted in collusion with the security guards, since the assembly emits high levels of radioactivity and could not have passed the exit dosimeters unnoticed. Aleksandr Mokhov, the head of the Russian Nuclear Power and Industry Ministry Main Department for the Protection of Information, Nuclear Materials and Facilities, says that three similar cases, which have taken place in Podolsk, Glazov and Arzamas-16, are on record at his department.

3/6/93 - ROSSIISKIE VESTI, "Interpol Conference Views Illegal Trade in Strategic Materials."

Interpol recently convened its first congress on the European continent to address the issue of nuclear technology (including "red mercury") smuggling out of the former Soviet Union.

Militia Lieutenant General Vasiliy Ignatov, head of Interpol's National Central Bureau in Russia, made the following comment: "We have presented our report, which was very honest and frank...It is no secret that radioactive materials are still being embezzled in our country, but the emphasis must be correctly placed. There is not a single recorded instance -- and this was confirmed by everyone -- of embezzlement, loss, purchase, or sale of weapons-grade nuclear materials...As a rule, we are talking about slightly enriched radioactive materials or ion-emitting materials, including the broad range of rare-earth metals which have been and still are widely used in different technologies and industrial sectors...Now, as regards 'red mercury'...No red mercury exists in nature, either factually or physically, and such an element is impossible to create. What is being sold, as a rule, are different reagents. There have been instances when any red materials have been described as 'red mercury.' But the problem exists nevertheless... Let me emphasize once more that law enforcement organs will not have to follow radioactive traces abroad if we impose in our own country effective control over the storage and utilization of such materials, something that is unfortunately still lacking." [See also JPRS-TEN 3/29/93.]

3/6/93 - IZVESTIYA, "Rossiiskikh Atomschikov Pytaiutsa vyteshit' s mirovogo rynka," p. 4.
The Russian organization for building nuclear facilities abroad, Zarubezhatomenergostroi, will be a major contractor in the sale to Iran of two 440 MW reactors. [See also IZVESTIYA 03/31/93, "Moskva Prodast Tegeranu Iadernye reaktory," p. 3.]

January/February 1993 - Arms Control Today, "Nuclear Exports from the Former Soviet Union," William C. Potter, p. 3.
Ukraine is reported to have shipped 45 tons of hafnium and zirconium to Belgium and the Netherlands and 11 tons of hafnium to Hungary in 1992.

2/23/93 - AGENCE FRANCE PRESSE, "Radioactive Container Stolen in Belarus."
A 40 kg container of cesium-137 was stolen from a company in the Minsk region of Belarus.

2/21/93 - AGENCE FRANCE PRESSE, "Russian Police Intercept Ukraine-bound Plutonium."
Russian authorities in the city of Belgorod intercepted an apparently unlicensed shipment of 11 lead containers of plutonium.

2/19/93 - IZVESTIYA, "Official Denies Supplying Nuclear Technology to ROK," p. 12.
A number of South Korean companies, including the major semiconductor manufacturer Samsung Corporation, have been benefitting from the services of Russian scientists. According to the South Korean Ministry of Science and Technology, nearly 400 Russian scientists and engineers conducted research at South Korean institutes during the period 1991-92. Ministry spokesman Li Din-ke stated that Moscow had expressed willingness to sell nuclear technology to Seoul along with weapons and space technology, but the director of the Russian Ministry of Atomic Energy's Press Center stated that he had heard no such report. [See also FBIS-CENTRAL EURASIA 2/24/93.]

2/17/93 - USA TODAY, "New Mafia Begins Trafficking in Uranium," Bruce Frankel.
The leader of Italy's anti-Mafia party, Leoluca Orlando, says that the mob is trading heroin for weapons-grade uranium and arms in the former Soviet Union and Eastern Europe. A new global Mafia group called the Star is orchestrating the trade, which is aimed at Middle Eastern states such as Iraq.

2/12/93 - PROLIFERATION ISSUES, "State Protection Office 'Aware' of Uranium Purchase Offer," p. 6.
The head of the Polish State Protection Office, Jerzy Konieczny, said in a recent television interview that several cases of radioactive materials being smuggled from the former Soviet Union to Poland had gone to court. On 1/19, for example, former Deputy Minister of Culture Kazimerz Clapka and Waldemar M., a former security officer, were arrested in Warsaw after attempting to sell uranium to German reporters posing as businessmen. A third party, who is reportedly associated with the former East German Stasi, was also arrested for having arranged the meeting between the seller

and buyers.

2/93 - SCIENTIFIC AMERICAN, "Selling to Survive."
The reasons why once-secret laboratories in the former Soviet Union are now finding themselves forced to sell their technology are discussed.

1/27/93 - INTERFAX, "Ministry Sees No Evidence of Major Trafficking in Radioactive Materials."
Andrei Chernenko, head of the Russian Security Ministry's public relations department, stated that the smuggling of radioactive materials from the Russian Federation does not appear to be a widespread phenomenon. He cited only one such incident, in which eleven suspects were arrested.

1/21/93 - REUTER, "German Police Catch Nuclear Smugglers."
Four men from the former Czechoslovakia were arrested in Germany in possession of 6.5 micrograms of CIS-origin californium-252.

1/21/93 - GAZETA INTERNATIONAL, "Former Officials Trading in Radioactive Materials."
Two former Polish government officials have been charged with illegal trade in radioactive materials used in the production of nuclear weapons after they offered to sell uranium, plutonium, warheads and torpedoes to undercover authorities. They were found to be in possession of diaries and notebooks listing names and telephone numbers of people from various former Soviet republics, "most probably functionaries of former special services."

1/20/93 - AGENCE FRANCE PRESSE, "Customs Seize Four Kilos of Cesium Isotope."
French police arrested two Poles and a German after discovering 4 kg (8.8 lbs.) of cesium-133 in their German registered car in the town of La Ferrieresous-Jougne near the Swiss border. The cesium is thought to have originated in Lithuania and the three men stated that they were instructed by a supplier in Lithuania to find a buyer for the cesium in Western Europe.

1/20/93 - LITERATURNAYA GAZETA, "Utechka," p. 13.
Nuclear materials are being smuggled from Russia despite official statements to the contrary. Even such sensitive materials as Uranium-235 are readily available to a buyer who pays the right price to the intermediary, who, in turn, procures it from the employees of one out of 151 Russian plants where fissile materials are produced or used. Once the "order" is placed, the designated employees start smuggling several grams of the material a day and finally accumulate the needed amount. This is what happened, for instance, at a defense plant in the city of Glazov, Udmurtiya. Over 250 kg of uranium (enrichment unspecified) smuggled from the plant by its employees were seized in Poland in November of 1991. Viable export control is impossible since there is not a single customs post in Russia which would routinely measure the radioactivity level of the shipment to be cleared, which permits the nuclear materials dealers to declare them as other, perfectly legitimate chemicals. Additionally, customs agents are very susceptible to bribery.

Nuclear materials still being supplied to a number of former Eastern bloc nations also present significant proliferation risks. In fact, most of the fissile materials seized in Germany, Austria or Italy are thought to have followed that route. But the Soviet "nuclear aid" was by no means limited to Europe. The USSR has been supplying nuclear fuel to Libya, Iraq, Vietnam, India, Egypt, Argentina and North Korea since 1975. Highly enriched uranium (up to 80 percent enrichment) was shipped to the research reactors in Libya, Iraq and North Korea.

1/13/93 - REUTER, "Police Search Lithuanian River for Missing Uranium."

A Lithuanian businessman who had bought two uranium rods in hopes of selling the material abroad dumped his cache into the Nevezis river in Lithuania after becoming frightened upon learning the original thieves had been arrested. The uranium had been stolen from a plant in the autonomous republic of Udmurtia.

1/11/93 - MEDNEWS, "Russia Expands Nuclear Exports," p. 3.

Viktor Mikhailov, the minister of Atomic Energy, said he expected sales of Russian-made nuclear materials to rise to $1 billion in 1993, up from roughly $600 million in 1992. A ministry economic forecast estimates that Russia could earn $18 billion by building nuclear power plants abroad between now and 2015.

1/8/93 - JPRS-TEN, "Prague Journalists Track 'Red Mercury' Shipments from Russia," originally from NEZAVISIMAYA GAZETA 11/25/92.

A reporter for PROSTOR appeared on the evening news in Prague to describe how he tracked down and eventually located "red mercury" that was being smuggled out of Russia. This material (Hg2Sb2O7) can be used to produce small-scale nuclear charges, and may also have an application in infrared military lasers. It is sold on the black market as either a brownish powder or a red liquid, and appears to come primarily from Krasnoyarsk and Novosibirsk.

1/7/93 - JPRS-PROLIFERATION ISSUES, "Planned Sales in Poland Thwarted," p. 25 originally from AFP 12/23/92.

Prosecutors in Udmurtia, Russia, announced that a group of 13 people have been arrested for stealing uranium from a plant in Glazov, Udmurtia and smuggling it into Poland. The main part of the material was allegedly sold for some $700,000/kg in the West, its ultimate destination apparently being countries of the Middle East. Another portion of the uranium turned up in Groznyi (in Russia), where it was eventually purchased by Azeris for resale to Iran for a price on the order of $15 million.

1/6/93 - CURRENT DIGEST OF THE SOVIET PRESS VOL. XLIV, NO. 49 (1992), "Sellers of Cesium and Plutonium From Former USSR Arrested in FRG."

German and Austrian police uncovered and arrested 16 people who sought to sell radioactive materials from Ukraine in Germany and other Western countries. The amount of radioactive materials involved has not been specified, but the smugglers appear to have asked for over 100 million marks. This incident is but the latest in a series of such attempted transactions in Germany: 1.2 kg of radioactive materials were seized there during the first half of this year, and authorities expect this figure to be even greater for the second half of the year.

1/4/93 - NUCLEAR FUEL, "Completion of RT-2 Project on Hold, South Korean Financing a Question Mark," pp. 5-6.

Although currently on hold due to lack of funds, Russia has plans to construct a 1500 MT Heavy Metal RT-2 spent fuel reprocessing plant in South Korea. Minatom Deputy Director Viktor Sidorenko said the facility will be finished as soon as financing becomes available.

1/93 - NUCLEAR ENGINEERING TODAY, "Bomb Plot... or Not?"

In December of 1991, 140 plutonium disks containing some 100 kg of Pu-239 were stolen from the Bulgarian firm Electrocommerce, possibly for sale to Iraq, according to THE SUNDAY PRESS (United Kingdom). Bulgarian officials dismissed the story as absurd, saying that the quantity of plutonium involved and was less than that required to manufacture even one weapon.

12/30/92 - REUTER, "Russia Tightens Curbs to Stop Nuclear Arms Spread."
German police arrested a Polish gang offering to sell a nuclear warhead from ex-Soviet stocks.

12/25/92 - IZVESTIYA, "Investigators Target Sale of Radioactive Materials."
According to the Russian Federation Sanitation and Epidemiological Committee, approximately 95 kilograms of radioactive uranium-238 stolen from the Chepetskii Mechanical Plant has turned up in trash dumps and other unexpected locations, putting unsuspecting individuals at risk.

12/10-23/92 - RADIO FREE EUROPE/RADIO LIBERTY NEWS BRIEFS, "Tougher Russian Laws against Arms Exports, Nuclear Smuggling," pp. 8-9.
Apparently in response to requests from the COCOM countries to crack down on the smuggling of nuclear materials, President Yeltsin has proposed tightening the laws concerning illegal exports of weapons, which would carry a jail term of three to ten years.

12/9/92 - IZVESTIYA, "V FRG arestovany torgovtsy tseziyem i plutoniyem iz byvshego SSSR," p. 5.
German police, acting on a lead from a German businessman who had been arrested with 383 plutonium-coated metal parts, uncovered an international ring of nuclear materials smugglers. Police agents posed as potential buyers of plutonium-239 and cesium-137 offered for sale The materials had been allegedly smuggled out of Ukraine. The article also reports that the High Command of the Russian troops stationed in Germany informed the local police that half a kilo of uranium-238 had been smuggled out of Russia and concealed in the Grunwald forest near Berlin. The German security service seized a total of 1.2 kg of fissile materials during the first half of the year, the total amount for the second half of the year is expected to exceed this figure.

11/29/92 - THE WASHINGTON POST, "For Sale: Nuclear Contraband; Smuggling Cases Worry Europe."
According to German authorities, smugglers of nuclear materials are making use of routes similar to those used for illegal drug smuggling. The German Environment Ministry official in charge of evaluating the recent explosion of smuggling cases has stated that in some cases the material seems to have originated at Eastern bloc military installations. Cesium, for example, is not directly involved in the manufacturing of nuclear weapons, but was used in nuclear decontamination exercises at East European military installations. In other instances, low-enriched uranium has been traced back to commercial reactors in Romania and the former Soviet Union.

11/27/92 - IZVESTIYA, "'Posylki' iz Chernobyl'skoi zony," p. 3.
Eleven measuring devices containing such radionuclides as californium and cesium-137 were stolen from the Nikitovsk Mercury Combine in the city of Gorlovka [Donetsk oblast'].

11/27/92 - FBIS-CENTRAL EURASIA, "Firm Illegally Exports Rare-Earth Metals," p. 54 originally from MOLOD UKRAYNY 11/08/92, pp. 4,10.
Ukrainian Department for Combatting Organized Crime operatives seized 3.2 tons of zirconium and 800 kg of hafnium on a plane ready to leave Uzhgorod [Western Ukraine] for Estonia. An unnamed research and development firm based in Kiev which leased the plane is presumed to be behind the scheme. A 10/28/92 report in HOLOS UKRAYINY [in FBIS-CENTRAL EURASIA, 11/05/92, p. 55] identifies the firm as "Lyena" research and production firm. The resale value of the batch of hafnium and zirconium was estimated at 70 million rubles.

11/24/92 - JPRS-PROLIFERATION ISSUES, "Unenriched Uranium-238 Reportedly

Sold in Groznyy," p. 26 originally from MAYAK RADIO NETWORK 11/14/92.

Buyers from Armenia reported paid 280 million rubles for an unreported amount of unenriched uranium-238 stolen from Udmurtia. The material is reportedly to be sold to Iran.

11/23/92 - FBIS, "Authorities Recover Stolen Radioactive Cesium, originally from UKRAINIAN TELEVISION NETWORK 11/20/92.

A number of capsules of cesium were stolen from the Barme production facility in Rubezhnoye (Ukraine), but recovered by authorities several days later. An unknown American buyer was allegedly offering payment in US dollars.

11/19/92 - IZVESTIYA, "Kontrabanda smerti," p. 7.

The Fosforit Combine in the town of Kingisepp [St. Petersburg region] has been hit with a number of thefts involving fissile materials. On August 28, 1992 it was discovered that six measuring devices containing radionuclides were unaccounted for. On September 7, more devices were smuggled from the plant. In the first week of October, another five devices containing cesium-137 were stolen. Two devices have been located and seized from intermediaries in the Estonian towns of Sillamae and Narva (the "transparent" border with Estonia is only 20 kilometers away). One of the intermediaries admitted that the Tallinn businessmen specializing in reselling non-ferrous and rare earth metals originating in Russia actively seek out Cesium. They intend to resell it to Western Europe, in particular to Germany. The North-Western branch of the State Committee for Inspection of Nuclear Industry of the Russian Federation reported that five devices from the Fosforit Combine were located on a ship which was about to leave Estonia for Finland.

11/19/92 - REUTER, "Polish and Ex-Soviet Police Join Forces."

At a conference on nuclear smuggling held in Legionowo, Poland, law enforcement officials from Poland, Estonia, Latvia, Lithuania, Belarus, Ukraine, Russia and Moldova agreed to join forces in combatting illegal transactions of this nature. The Ukrainian Police Chief General, Piotr Mielnik, expressed particular concern over the smuggling of non-ferrous metals and nuclear materials from Ukraine.

11/13/92 - PROLIFERATION ISSUES, "Ukraine Deters Smuggling of Strategic Material," p. 28.

According to Ukrainian authorities, the research and production firm Lyena has been attempting to smuggle some 70 million rubles worth of zirconium abroad. Two other Ukrainian companies, Kontrakt-91 and Buddetal, have reportedly been engaged in similar activities.

11/12/92 - JPRS-PROLIFERATION ISSUES, "Radioactive Substances Reportedly For Sale," p. 28 originally from SVERIGES RADIO NETWORK 10/28/92.

Cesium-137 of purportedly former Soviet origin was offered to a Swedish businessman by a Swiss company.

11/12/92 - JPRS-PROLIFERATION ISSUES, "Uranium from Udmurtia Plant Smuggled to Poland," p. 23 originally from BELINFORM (Minsk) 10/24/92.

Belarusian KGB officers arrested two Russians, a Belarusian and a Polish citizen after they were found in possession of 2.35 kilograms of uranium-238. The smugglers were part of a larger group which had stolen approximately 100 kilograms of uranium from a plant in Udmurtia.

11/12/92 - JPRS-PROLIFERATION ISSUES, "Ukraine Thwarts Smuggling of Strontium-90," p. 25 originally from PAP 10/30/92.

Ukrainian police stopped an attempt to smuggle nine containers of strontium-90 into Poland. The material was stolen from a Russian military base, and had reportedly already been sold to Polish clients for $500 per container.

11/11/92 - KOMSOMOLSKAYA PRAVDA, "Irak dobyvayet plutoniy v Bolgarii. Kazhetsya, sovetskiy," p. 1.

At the Sheraton Hotel in Sophia, Bulgaria, security agents seized a crate containing 44 kg of weapons-grade plutonium-239 allegedly bound for Iraq. Two quality certificates issued by the Russian Isotope Scientific and Production Association were also found in the crate. The crate, however, contained roughly half of the total shipment bound for Iraq. According to a report published in THE SUNDAY EXPRESS, Norman Derbyshire, a British businessman working in Germany, offered British arms dealer Robert Tarp 80 kg of plutonium-239 at $80 million. Tarp's ignorance of the implications of the potential deal prevented it from happening (he passed on a plutonium disc he had received from Derbyshire as a sample to some experts who promptly reported it to the National Radiological Protection Committee). Interpol agents conducting the investigation see the case as further evidence of massive transfers of controlled nuclear materials from Russia. Mr. Nesterov, chief engineer of the Izotop Scientific and Production Association, dismisses the evidence of his firm's involvement in the deal as a "bluff". He admitted though that Izotop had shipped 2,000 calibration plutonium discs used for testing gas analyzers, which were being produced in Bulgaria within the framework of a Comecon cooperation program. [See also REUTER 11/3/92.]

11/7/92 - THE NEW YORK TIMES, "Russia's Nuclear Entrepreneurs," William C. Potter.

Russia's International Chetek Corporation is offering to provide peaceful nuclear explosions as a means of disposing of toxic waste, decommissioned nuclear reactors and nuclear weapons. The offer is open to anyone, and costs $300 per kilo of waste.

11/5/92 - AGENCE FRANCE PRESSE, "Stolen Cesium-137 Containers 'Still Missing."

Two farmers from Szczecinek (northern Poland) have been accused of purchasing two containers of stolen cesium-137 from Russian soldiers last July. One container, containing 88 kg of cesium, was recovered by the police; the other is still missing, and the value of its contents is estimated at US $10,000.

11/1/92 - THE SUNDAY EXPRESS, "Iraq A-Bombs Plot Foiled."

Plutonium-239 reportedly was smuggled out of reprocessing plants in Russia with the assistance of corrupt Russian state officials. The ultimate destination of the material appears to have been the Iraqi Embassy in the Bulgarian capital of Sofia. In the words of one Russian nuclear physicist, "It would not be difficult to produce ten finished bombs with this material. I am shocked."

10/30/92 - RADIO FREE EUROPE/RADIO LIBERTY, #43, "German Police Seize Enriched Uranium," p. 61, from REUTER 10/16/92.

According to the report, German police seized 2.2 kg of allegedly highly enriched uranium in Munich on October 13th, 1992. It was not clear from the report to what extent the uranium was enriched. Reuter claimed that uranium-234, 235 and 238 isotopes were seized.

10/29/92 - REUTER, "Police Smash Uranium Smuggling Ring in Yugoslavia."

German police in Munich have broken up a smuggling ring, the goal of which was apparently to ship large quantities of uranium-235 into the war zone in Yugoslavia, together with some 30 Soviet- made tanks. An investigation is currently underway, and seven Germans, eight Croatians (including one Catholic priest), two Austrians and one Swiss have been arrested in connection with this case. German Environment Minister Klaus Toepfer noted that smugglers of nuclear materials are facing great personal risk: one Pole is currently being treated for radiation exposure as a result of carrying two grams of cesium in his shirt pocket.

10/28/92 - JPRS-PROLIFERATION ISSUES, "CIS Isotope Thefts Cause Concern in Germany," p. 13, originally from RUSSIAN TELEVISION NETWORK 10/13/92.
German police discovered in Frankfurt am Main two contraband containers of cesium-137 and strontium-90 stolen from scientific or medical establishments "most probably" in Russia or Lithuania.

10/28/92 - FBIS-CENTRAL EURASIA, "Security services investigate smuggling of strategic materials," p. 55.
The operatives from the Kiev Regional Security Service intercepted an attempt by the Kontract-91 and Buddetal enterprises to smuggle out 16 million rubles worth of zirconium.

10/26/92 - NUCLEAR FUEL, p. 4.
Yevgeny Mikerin, director of nuclear materials production at the Russian Ministry of Atomic Energy, said that Russia would sell a 200,000 SWU/year centrifuge enrichment facility to China if denied access to Western nuclear markets.

10/23/92 - REUTER LIBRARY REPORT, "Police Foil Attempt to Smuggle Uranium to Poland."
Two Russians were arrested in Belarus for possession of 220 lbs of weapons grade uranium.

10/22/92 - REUTER, "CIS Uranium-2 Moscow (Reopens)."
A Polish man was arrested in Poland in possession of 1.5 kg of uranium which he had smuggled out of the CIS with the intent of selling the material in Germany.

10/20/92 - VESTI (Russian Television News Program).
Russian security agents along with the officials from the local Procurator's office detained a group of criminals who had been stealing uranium from a defense plant in Izhevsk. The smugglers were going to sell the uranium abroad at $100,000-$170,000 per kilo. The agents seized 100 kg of uranium and notified President Yeltsin.

10/20/92 - THE WASHINGTON POST, "Germany Reports Upsurge in Nuclear Smuggling Cases," p. A27.
German investigators have uncovered more than 100 cases in 1992 involving diverted nuclear material from the FSU. There were only 29 such cases in 1991.

10/19/92 - RADIO FREE EUROPE/RADIO LIBERTY RESEARCH REPORT, #43, "Russia Denies Report on China Deal," p. 60.
A spokesman for Oboronexport, an organization reportedly controlling sales of advanced defense technology abroad, denied the charges made by US officials accusing Oboronexport of selling technology for uranium enrichment to China. The spokesman emphasized that Russia had acted within the framework of UN agreements and did not violate the NPT.

10/18/92 - THE NEW YORK TIMES, "Moscow is Selling Weapons to China, U.S. Officials Say," p. 16.
US officials report that Russia is selling uranium enrichment technology to the PRC.

10/14/92 - KOMSOMOLSKAYA PRAVDA, "Tragikommivoyazhery," p. 3.

German criminal police operatives apprehended a container with cesium-137 and strontium-90 isotopes at the Frankfurt-Main railway station on October 13, 1992. Three Poles were arrested on suspicion of smuggling the isotopes into Germany. The origin of the materials in unclear. The German Foreign Affairs Ministry sent memoranda to the governments of Poland, Russia, Ukraine, Belarus, Lithuania, Latvia and Estonia, urging them to put an end to illegal exports of radioactive materials to Germany. A report published by DER SPIEGEL indicates that thousands of Russian-manufactured screw nuts thinly coated with plutonium have been sold on the black market in Munich.

10/14/92 - PRAVDA, "Tsirkoniy nuzhen?" p. 4.

Customs agents seized many million rubles' worth of zirconium at the Sebezh Railway Station [Pskov region] - a major transshipment point between Russia and the Baltic states. Apart from zirconium, they recently seized 80 tons of copper and tons of other non-ferrous and rare earth metals. Customs agents complain that the lack of legislation regulating the status of the Russian borders with the former Soviet republics prevents even filing a lawsuit against the smugglers.

10/10/92 - REUTER, "Germans Arrest Five Poles for Smuggling Nuclear Materials."

German authorities arrested five Poles who attempted to smuggle five containers of radioactive material into Germany from Lithuania via Poland. One container held strontium, another cesium, and two others uranium.

10/9/92 - JPRS-PROLIFERATION ISSUE, "CIS Nuclear Arms Security Worries Poles," p. 17 originally from KURANTY 9/16/92, p. 6.

In June 1992, three capsules of cesium-137 were stolen from the Borny-Sulimov Soviet army base in Poland by former Soviet soldiers who had remained in Poland after being discharged.

10/8/92 - NUCLEONICS WEEK, "IAEA Finds Name Used By 'Rare' Metal Fraudsters," p. 13.

The IAEA has learned that unidentified enterprises are using phony IAEA documents to certify their smuggling of supposedly nuclear-related materials of questionable value, such as "red mercury" and osmium-187.

10/4/92 - REUTER, "Ukraine Steps Up Search for Natural Resources."

Ukraine is seeking Western investment to finance uranium exploration and mining, as it hopes to export uranium.

9/23/92 - KAZTAG-TASS, from Radio Free Europe/Radio Liberty Research Institute Monitoring Unit.

The Kazakh daily KAZAKHSTANSKAYA PRAVDA reported that a container with cesium-137 was smuggled from the Atyrau (formerly Gur'yev) Oil Refinery. The container was lifted with a crane from a silo covered with two metal lids. It is presumed that the smugglers will try to sell it abroad. They might have also been attracted by the resale value of the lead cover of the container. The exact motive of the theft is still unclear. According to a report publicized by the Interfax agency on October 20 [FBIS-CENTRAL EURASIA 10/21/92, p.42], local residents found the container under an automobile bridge. The contents of the container, the resale value of which was appraised at 50 to 60 thousand US dollars, had a radioactivity level of 10 rads.

9/23/92 - PROLIFERATION ISSUES, "Tajik uranium sales to Iran alleged," p. 23 from CHAS PIK 8/10/92.

A German reporter from STERN, Erich Follat, posed as a businessman in order to investigate claims that Tadjikistan planned to sell enriched uranium to Iraq and Iran. In Dushanbe, he was approached by a man who offered to sell him 15 kg of uranium enriched to 80 percent, which allegedly came from Taboshar.

9/16/92 - JPRS-PROLIFERATION ISSUES, "Kazakhstan to Declassify Data on Uranium deposits," p. 28, originally from KAZAKH RADIO NETWORK 9/9/92.
The government of Kazakhstan has decided to declassify information on uranium reserves in the republic, and to present information on total uranium reserves and resources to the IAEA, as a prerequisite to joining the IAEA and obtaining uranium sales quotas.

9/12/92 - MONTEREY HERALD, "US Rips Iran Deal for Reactor."
Russia has agreed to sell Iran two 440 MW nuclear reactors, and to supply 170 nuclear technicians to install and operate them.

9/9/92 - JPRS-PROLIFERATION ISSUES, "Russia, Iran Cooperate on Peaceful Nuclear Issues," p. 19, originally from ITAR-TASS 9/7/92.
On 9/21/92, Iran and Russia will sign a joint declaration on nuclear cooperation and construction of a nuclear power plant in Iran, according to Georgiy Kaurov of the Atomic Energy Ministry. Technology related to the production of materials for use in nuclear reactors and fuel cycles will also be shared.

9/3/92 - THE GUARDIAN, "US Report Says Iran has Soviet Nuclear Weapons."
The US House Republican Research Committee Task Force on Terrorism and Unconventional Warfare reported Iran had imported four nuclear weapons, two of which are now operable, from a Muslim republic of the CIS. The alleged nuclear weapons include two 40 kt missile-based warheads, one 50 kt aerial bomb and one small 0.1 kt artillery shell.

9/1/92 - THE WASHINGTON POST, "U.S. to Buy Russian Uranium," p. 3.
Russia and the US initialed an agreement on September 1, 1992, under which the United States will buy Russian highly-enriched uranium to be used as fuel for American nuclear reactors.

9/92 - NEDELYA #35, "Nashestviye krasnoi rtuti," p. 10.
Yuri Tychkov, Deputy minister of the Russian Ministry of Atomic Energy and Industry, denounced the rumors about the so-called "red mercury," allegedly produced at one of the Russian closed nuclear cities and used in missiles, as a sham. Many entrepreneurs are using "red mercury," which is not on the list of the controlled materials, as a cover for smuggling precious metals and fissile materials out of the country. Dozens of Russian ministries are inundated with requests for export licenses for the non-existing "red mercury."

8/27/92 - REUTER, "Old Cold War Foes Unite To Stop Nuclear Smugglers."
In Bonn, police say that 200 cases of nuclear smuggling have been investigated in Germany alone since 1990. Don Kerr, British defense expert said that most of the material being smuggled consists of fuel pellets of uranium dioxide. In 3/91, two former Soviet citizens were arrested trying to sell 1.2 kg of uranium for $1.1 million. In April, two men were arrested in Hungary for trying to smuggle uranium fuel rods, believed to have come from Ukraine, into the country. In June, Rumanian police arrested a technician from a nuclear materials factory, saying 208 kg of low-grade uranium fuel pellets had been stolen.The following month, two Poles and two Austrians were detained in Berlin for attempting to smuggle cesium-137 and uranium-238. On August 1, Polish Radio reported that two Poles were arrested on charges of collaborating in the removal of cesium-137 from

Russian army bases. On August 8, plans by Tadjik entrepreneurs to sell enriched uranium to foreigners were uncovered by MEGAPOLIS-EXPRESS. Two Italian businessmen were arrested on Wednesday in Rimini for possession of what is thought to be uranium.

8/27/92 - FBIS-CENTRAL EURASIA, "Future of Russia's Enriched Uranium Viewed" originally from KRASNAYA ZVEZDA 8/21/92, "Large-Scale Maneuvers Over Russian plutonium," p. 3.
Reports of "red mercury", "plutonium in screws" and other fissile materials originating in Russia and surfacing in the West are dismissed as either fictitious or hugely exaggerated. For example, the "radioactive" scrap metal containing a small amount of cobalt-60 shipped from Estonia which was detained in the port of Stockholm was presented as part of the reactor of a nuclear submarine belonging to Russia.

8/27/92 - FBIS-CENTRAL EURASIA, "Firm Illegally Exports Rare-Earth Metals," p. 54, originally from MOLOD UKRAYINY 8/11/92, p. 4.
Ukrainian officials detained a plane allegedly bound for Estonia loaded with 3.2 tons of zirconium and 800 kg of hafnium. Zirconium is worth $1,000 per kg and hafnium, $25,000 per kg. Two planes from a united aircraft unit in Kiev have allegedly already smuggled more than 6 tons of these materials to Estonia.

8/26/92 - REUTER, "Two Italians Carrying Suspected Uranium Arrested."
Two Italian businessmen, Luigi Baratiri and Daniele Colli, were arrested in Rimini in possession of what is thought to be U-235.

8/5/92 - THE WALL STREET JOURNAL, "Cuba's Potential Chernobyls," p. A14.
Ukraine and Russia continue to supply Cuba with advisors and components to help complete the Juragua nuclear plant.

8/92 - READER'S DIGEST, p. 39.
In Switzerland, a mafia member and a Russian army officer allegedly closed a deal to sell uranium to Iraqi representatives.

8/92 - NUCLEONICS WEEK, "Sweden Seeking Source of Contaminated Copper Scrap," p. 6.
Twenty metric tons of imported Estonian copper contaminated with cobalt-60 have been confiscated by Swedish officials. The copper also showed unconfirmed signs of cesium-137 contamination.

7/23/92 - NUCLEONICS WEEK, "Chernobyl, Armed with New Valves, Ready for Restart of Two RBMKs," p. 13.
The Kiev Automatic Equipment Plant will most likely produce valves for Lithuania's Ignalina Nuclear Power Station.

7/21/92 - JPRS-PROLIFERATION ISSUES, "Export Control Commission to Control Transfers," p. 19, originally from INTERFAX 7/16/92.
Armenia has announced new export controls requiring special governmental permission to export "radioactive materials."

7/21/92 - ASSOCIATED PRESS.
Increased incidents of nuclear smuggling have Western experts worried. The three recent smuggling cases in Germany and Austria involving low-enriched uranium from civilian nuclear facilities are examples of this. The originating countries have not been identified, but Russia, Kazakhstan, Czechoslovakia and Romania have been mentioned as leading possibilities. The Ukrainian Center for Independent Political Research said there are unconfirmed reports that a warhead, stolen by soldiers and bound for Libya, was intercepted in the Black Sea port of Odessa in December. Vitali

Zhuzavsky, a Ukrainian politician, credits poor army discipline for the loss of security over stored nuclear weapons. Last year, several Chelyabinsk-65 workers led by a department chief stole a 4.34 oz platinum vessel for storing radioactive material, and left behind a steel copy. An anonymous Russian nuclear official said that uranium could be enriched at a nuclear plant without leaving a trace in the records. Russia has drafted a law intended to stop the spread of nuclear material out of the country, but Dr. William Potter of the Monterey Institute said this is unlikely to stop smugglers.

7/16/92 - JPRS-PROLIFERATION ISSUES, "U.S. 'Uranium War' Against Russia Viewed," pp. 9-10, originally from MOSCOW NEWS FAX DIGEST 6/30/92, Vladimir Orlov.

A Russian journalist suggested that Kyrgyzstan and Uzbekistan, which have lax export controls, could be prompted to sell uranium to "any country." The concern has been raised by the fear that these countries will need new markets to replace those lost in the US and Europe.

7/10/92 - JPRS-PROLIFERATION ISSUES, "Russian Army Deserters Reportedly Stole C-137," p. 6, originally from WARSAW THIRD PROGRAM RADIO NETWORK in Polish 0900 GMT 07/08/92.

Russian Army deserters stole three containers with cesium-137 from the Russian Army unit in Borne Sulinowo, Koszalin county on June 29, 1992.

7/8/92 - MEDNEWS, "Kazakh Nukes Found," p. 2.

Olzhas Suleimenov, a member of Kazahstan's parliament and a founder of the Nevada-Semipalatinsk Society, said that the three missing nuclear warheads that Kazakhstan had been accused of selling to Iran were actually abandoned in mine shafts at the Semipalatinsk test range, and were still there.

7/92 - NUCLEAR NEWS, p. 55.

261 uranium pellets enriched to 5 percent reported to come either from the Ulbinsky plant in Kazakhstan or the Atommash fuel fabrication plant in Russia were confiscated by the Austrian police in Vienna.

6/25/92 - JPRS-PROLIFERATION ISSUES, "Krasnoyarsk Search for Stolen Cesium Continues," p. 26, originally from IZVESTIYA 6/12/92, "Cesium Stolen in Krasnoyarsk," p. 6.

A lead container with cesium-137 was stolen from a Krasnoyarsk area oil pipeline administration storage facility. [See also FBIS FOREIGN PRESS NOTE 8/20/92.]

6/19/92 - JPRS-PROLIFERATION ISSUES, "Russian Center Trained DPRK Nuclear Scientists," pp. 23-24, originally from YONHAP 6/11/92.

An atomic research center in Dubna, Russia, supplied key technologies for North Korea's first "test nuclear reactor" at Yongbyon in 1963.

6/19/92 - JPRS-PROLIFERATION ISSUES, "Investigation Detailed," originally from KURIER 6/11/92.

Three Czechs were arrested on 6/9 with 3 kg of material containing uranium, in front of the German Huma supermarket. There were 850 g of pellets containing 2.4 percent uranium-235, uranium disks which are usually strung together to form a fuel rod for nuclear reactors. Included in the material were 1,118 g of uranium oxide pellets in the form of natural uranium, and 1024.4 g of test fuel of the Skoda A1 reactor type. Michael Sika, director general for public security, thinks the operation was carried out by a different organization than was behind the seven people carrying 1.2 kg of radioactive material that were arrested the previous week. The material seized last week was part of a reactor of the Soviet

VVER-1000 type. The fuel rods seized in front of the supermarket have not yet been identified, but they do not belong to a VVER-1000 reactor. [See also KOMSOMOLSKAYA PRAVDA 6/5/92 and FBIS FOREIGN PRESS NOTE 8/20/92.]

6/3/92 - JPRS-PROLIFERATION ISSUES, "Joint Chinese Nuclear Research Center Opens," p.15, originally from KRASNAYA ZVEZDA 5/15/92, p. 3.
Russia sent a neutron radiation source, its activation device, and roentgen fluorescent analysis equipment to the Russian-Chinese joint research facility in Harbin, which was established under an agreement signed in 12/90.

6/2/92 - JPRS-PROLIFERATION ISSUES, "Nuclear Experts and PRC Nuclear Potential," p. 11, originally from PRAVDA 6/16/92, p. 3.
Russian experts are helping Chinese nuclear scientists to install a Russian-designed Tokamak-7 reactor at Ho-Fei.

5/20/92 - JPRS-PROLIFERATION ISSUES, "Theft of Radioactive Material from Russia Reported," originally from ITAR-TASS 5/11/92.
Thirty-eight small containers, each containing four plates filled with plutonium were taken from an unguarded store of the Irkutsk enterprise Radon. 100 plates have been recovered and authorities are searching for the remainder.

5/14/92 - JPRS-PROLIFERATION ISSUES, "Newspaper Says Red Mercury Being Sold Abroad," pp. 37-38.
Foreign front companies in Liechtenstein, the US, and Britain have been set up to purchase a substance called "red mercury" from Russia. The Russian concern Promekologiya, located in Yekaterinburg, holds the monopoly on the material.

5/4/92 - KOMMERSANT, #18, "Tsirkoniy zaletel na 213 millionov rubley," p. 17.
Russian security agents seized 12 tons of flat-rolled zirconium at the Yekaterinburg airport on April 16, 1992. The shipment was bound for Lithuania. The supplier of zirconium--the Urals Association for Cooperation with Foreign Nations--received an export license for 40 tons of untreated zirconium, but used it as a cover for selling the finished product to a Lithuanian trading company "VEKA." The supplier is faced with the possibility of a 213 million rouble fine.

5/92 - NUCLEAR NEWS, "U.S. Decides to Buy Topaz-2 from Russia," p. 60.
In addition to the Topaz and plutonium-238, the US will also buy four Hall thrusters for $14 million.

5/92 - NUCLEAR ENGINEERING INTERNATIONAL, "Uranium for Sale," p. 8.
Kyrgyzstan President Askar Akaev offered to supply India with enriched uranium under full-scope IAEA safeguards.

5/92 - NUCLEONICS WEEK, "Want to Buy Something Hot? Soviet 'Red Mercury' for Sale," pp. 4-5.
Finnish police have urged business people to "be wary of Estonians attempting to sell red mercury."

4/28/92 - THE WASHINGTON TIMES, "Risky Reactors in Cuba?", p. F3.
In 03/92, Yeltsin agreed to continue work on Cuba's NPPs if Cuba paid in hard currency. Russian shipments of equipment to Cienfuegos continue.

4/22/92 - JPRS-PROLIFERATION ISSUES, "Police Arrest Uranium Smugglers in Miskolc," p. 3, originally from MTI 4/10/92.
Two Hungarians were arrested attempting to smuggle 2.6 kg of

"radioactive uranium rods" out of Ukraine into Hungary.

4/20/92 - THE EUROPEAN, "Iran Has N-Bomb," pp. 1-2.
Russian intelligence states that Iran has acquired at least two nuclear warheads from Kazakhstan.

4/15/92 - JPRS-PROLIFERATION ISSUES, "Atomic Fraudsters Investigated," originally from IZVESTIYA 4/2/92.
A. Shishkin, chairman of Techsnabexport, said that not a single case of nuclear material confiscated abroad had been proved to come from the FSU. There have been allegations that enriched uranium and plutonium seized in Hungary, Italy, Switzerland, Austria and Mozambique was of Soviet origin, but the reports were either proved false, or the material was natural, not enriched uranium.

4/10/92 - CIS TODAY (In Russian), "The Newspaper KOMMERSANT Reports That Illegal Radioactive Material Is Leaving the CIS To Go Abroad, to, for Example, North Korea."
People who work with radioactive substances report that it is possible to buy illegal substances from military officers who are dismantling missiles, or from nuclear stations. Radioactive substances are usually exported in railway cars mixed in among other metals. By this route, 56 kg of plutonium was exported to North Korea over the last two months.

4/10/92 - CIS TODAY (In Russian), "Experts Suspect That the Shipment of Uranium Confiscated in the Beginning of March in Germany Was Stolen from One of the Former Soviet Nuclear Reactors," from ITAR-TASS.
Augsburg prosecutor Iorg Khillinger said there is a high probability that the uranium-235 confiscated at the beginning of 3/92 in Germany originated in a Soviet nuclear power station. Euratom experts based this conclusion on the 1.2 kg weight of the sample, which is typical of Soviet fuel either from the Kazakh nuclear reactor or from one near Moscow. The value of the pellets is estimated at 3.5 thousand marks.

4/8/92 - JPRS-PROLIFERATION ISSUES, "Reportage Continues on Claims of Brain Drain," originally from KOMSOMOLSKAYA PRAVDA 4/1/92.
1/8/92: Three Hungarians and an Austrian were arrested in Milan in possession of 2 kg of red mercury. 3/9/92: The German police stated that two former USSR citizens had tried to sell 1.2 kg of U-235 for 1.9 million marks in Bavaria. 3/9/92: DER SPIEGEL reported that a Herr Schliemann had received an offer of uranium, heavy water and red phosphorus from Nikiforov, a citizen of St. Petersburg. 3/10/92: The Norwegian Ministry of Foreign Affairs reported that a Norwegian firm had received a fax from a Russian businessman offering to sell six to eight tons of heavy water, 300 kg of red phosphorus and 10 kg of red quicksilver.

4/6/92 - RUSSIAN PRESS DIGEST, "Conversion of Military Industry Brings In Good Profit to Smugglers," from KOMMERSANT, p. 26.
North Korea purchased 56 kg of plutonium from CIS officers dismantling nuclear missiles under START.

4/4/92 - THE HOUSTON POST, "Soviet plutonium, Uranium May Be on Black Markets, Experts Say," p. A11.
Small amounts of uranium and plutonium, allegedly from Russia or Kazakhstan, have shown up on European black markets in 9/91, 10/91, 12/91, 2/92, and 3/92.

4/3/92 - JPRS-PROLIFERATION ISSUES, "Radioactive Material Stolen from Transdnestr," originally from POSTFACTUM 3/18/92.
A box containing radioactive material was stolen in Pridniestroviye,

and the thieves threatened to blow up the material if fighting in Moldova is not stopped.

4/3/92 - JPRS-PROLIFERATION ISSUES, "Zelentsov on Misunderstanding," originally from RADIO MOSCOW WORLD SERVICE 3/13/92.
General Sergei Zelentsov, deputy in charge of the CIS nuclear forces issued an official response to news reports that two former Soviet citizens were detained in Germany with U-235 stolen from army stores, and Russia's vice-president Aleksandr Rutskoi's statement that nuclear weapons were present in the Transcaucusus. Zelentsov denied the possibility of theft from army stores because of tight security measures, and said that nuclear weapons had been withdrawn from the Transcaucusus long before the outbreak of regional ethnic troubles.

4/3/92 - JPRS-PROLIFERATION ISSUES, "Illegal Mercury Sales in Europe Investigated," originally from LITERATURNAYA GAZETA.
This article is a translation of a piece by Paolo Bondani, entitled "Uranium Hunt," which appeared in CORRIERE DELLA SERA. According to the author, "arms dealers and mafiosi, politicians and entrepreneurs, diplomats and spies" are establishing underground networks to supply aspiring nuclear states with technology from the former Soviet Union. The route taken by smuggled materials often appears to be as follows: Siberia -- Hungary -- Yugoslavia -- Austria -- Switzerland -- Italy -- the Near East.

4/2/92 - NUCLEONICS WEEK, "U.S. to Buy Russian Space Reactor as Clouds Shroud SP-100 Program," pp. 14-15.
If the imported Topaz reactor performs well, DOE may be allowed to import other further components for US space reactor systems.

4/2/92 - NUCLEONICS WEEK, "Bulgaria: Kozloduy-2 Annealing Finished," p. 17.
Russia's Podolsk engineering bureau has completed the annealing of the pressure vessel in unit 2 of Bulgaria's Kozloduy plant, paving the way for restart of the reactor this summer.

4/1/92 - IZVESTIYA, "Export iadernoi tekhnologii dolzhen byt' tol'ko legal'nym."
Enhanced international cooperation alone can halt the "uncontrollabale leakage of nuclear materials" out of the former Soviet Union.

3/31/92 - LITERATURNAYA GAZETA no. 11, "Alleged Sales of Soviet Nuclear Material in Europe Outlined."
Secret networks are being formed that combine the nuclear arsenal of the FSU with nuclear power plants in other countries. Nuclear material is likely smuggled out along a route from Siberia through Hungary, Yugoslavia, Austria, Switzerland, Italy and finally into the Near East. Romano Dolce believes that the uranium, plutonium and red mercury that have been confiscated in the last year came through at least 10 countries. The article details the sequence of events that lead to the capture of Karl Federer in Como on 10/16/91.

3/30/92 - NUCLEAR FUEL, "India/Kyrghyzstan: Uranium Offered," pp. 16-17.
Kazakhstan has agreed, along with Kyrgyzstan and Russia, to export yellowcake only under safeguards.

3/28/92 - THE WASHINGTON POST, "1st Russian Purchases Approved," pp. A1, A18.
The White House has approved the purchase and importation of nuclear material from Russia, including a Topaz II reactor and $6 million worth of plutonium-238.

3/23/92 - FBIS-CENTRAL EURASIA, "Moldovan Official: Radioactive Containers Safe," p. 2, originally from MAYAK RADIO NETWORK 3/21/92.

The Chief of the Moldovan Civil Defense denied reports that two containers of radioactive materials had been stolen from the civil defense regiment in Kochiyer. He said the containers had been moved to a guarded military storage site.

3/20/92 - JPRS-PROLIFERATION ISSUES, "Businessmen Attempt to Sell Nuclear Materials," p. 23, originally from TASS INTERNATIONAL SERVICE 3/12/92.

Russian businessmen in Volgograd have proposed to a Norwegian firm the sale of heavy water from two reactors no longer in service. Six to eight tons of this material was offered for $460 per kg. In addition, the dealers offered to ship red mercury at $240,000 per kg to Norway via Austria.

3/20/92 - JPRS-PROLIFERATION ISSUES, "Uranium Exports Planned; Libyan Group Visits," p. 19, originally from MOSCOW NEWS 1/19/92, p. 5.

Tadjikistan reportedly hopes either to sell uranium on the world market or to set up a consortium with Arab countries to develop uranium deposits.

3/20/92 - IZVESTIYA, "President Kyrgyzstana obyasnayet," p. 1.

On March 19, 1992 President Askar Akayev reportedly offered to sell enriched uranium to India or other countries subject to UN approval, even though the Russian Ministry of Atomic Energy stated that all enrichment plants in the FSU are located in Russia.

3/16/92 - IZVESTIYA, "Sledov tyazheloy vody v Volgograde poka ne obnaruzheno," p. 4.

According to the Norwegian press, a Norwegian company received an offer faxed from Volgograd to sell eight tons of heavy water along with red phosphorous and red mercury. The Volgograd branch of the Russian Security Ministry began an investigation.

3/13/92 - JPRS-PROLIFERATION ISSUES, p. 28, originally from NEZAVISIMAYA GAZETA 2/27/92, p. 6.

Tadjikistan processes "fluorine ore" to derive a pure concentrate to sell to Russia and Kazakhstan.

3/13/92 - FBIS-CENTRAL EURASIA, "Uranium Smugglers Caught in Germany Amateurs," originally from IZVESTIYA 3/11/92.

The two German settlers arrested in Bavaria with 1.2 kg of low-enriched uranium are believed to be amateurs, not part of a mafia-type smuggling ring.

3/13/92 - JPRS-PROLIFERATION ISSUES, "Kazakhstan to Cooperate in Nuclear Technology," p. 22, originally from THE FRONTIER POST 2/29/92, p. 1.

Kazakhstan has declared its willingness to cooperate with Pakistan in nuclear technology.

3/12/92 - NUCLEONICS WEEK, "Two Arrested for Uranium Smuggling but Amount Said To Pose No Danger."

Two men, reportedly Russians of German parentage, were arrested in Augsburg on 3/5 in possession of over 1 kg of low-enriched uranium that they were trying to sell for DM 1.9 million ($1.14 million). The source of the uranium is not yet identified, but it was in the form of pellets like those burned in nuclear power plants. The European press sees this incident as part of a pattern of organized traffic in radioactive substances begun since the breakup of the Soviet Union. Both the IAEA and Wolfgang Thomas of

Germany's Gesellschaft fr Reaktorsicherheit say the kg of 2.8 percent enriched uranium was "not sufficient to be a threat to safety," and is probably some form of scrap. The IAEA estimates the material's worth at $350. The IAEA published a statement on 2/27 saying in every reported case of uranium smuggling, including the 30 kg of uranium confiscated in 11/91 in Zurich, the material has been of such low grade or in such small quantities as to pose no safety threat or proliferation danger.

3/10/92 - FBIS-CENTRAL EURASIA, "Nuclear Material Reportedly Offered for Sale," originally from DER SPIEGEL 3/9/92.
German citizen Ernst Schleimann contacted the LTR company, which is involved with trading heavy water to the FSU. At the beginning of 2/92, 2.8 tons of heavy water had left the FSU for Poland and beyond. Egyptian buyers are apparently seeking Soviet HEU. A Russian-Belgian joint venture, Sirin, may be involved in the deals. Sirin's general director is Valeri Ryumin.

3/10/92 - FINANCIAL TIMES, "Arrests over Cache of Uranium."
Two ethnic Germans from the FSU were arrested by the German police for trying to sell 1.2 kg of uranium of unknown origin for DM 1.9 million ($1.1 million).

3/10/92 - INDEPENDENT, "Uranium Sellers Caught in Lay-by."
Wolfgang Thomas, a senior member of a German nuclear research institute, said the uranium pellets confiscated near Augsburg may have been smuggled to Germany from a research institution in the FSU. The uranium contained only 2.8 percent U-235, the standard level of enrichment for civilian nuclear power stations. The German police were tipped off last month that the two men were seeking to sell enriched uranium.

3/10/92 - LOS ANGELES TIMES, "Germany Holds Ex-Soviets as Suspected Atomic Smugglers."
Two ethnic German FSU immigrants were arrested in Bavaria while attempting to sell 2.6 lbs of radioactive material for $1.1 million. An expert from Euratom was sent to examine the uranium-235, which is believed to be of such low potency as to be harmless.

3/5/92 - JPRS-PROLIFERATION ISSUES, "Safety Chief on Illegal Uranium Exports," originally from IZVESTIYA 3/5/92.
At a press conference held on 3/4/92, Aleksandr Gutsalov, first deputy chairman of the State Committee for the Supervision of Nuclear and Radiation Safety, said that uranium sales abroad were governed by IAEA regulations, and that his organization is not involved in illegal uranium sales.

3/4/92 - FBIS-CENTRAL EURASIA, "Investigation Continues into Uranium Sales," p. 14, originally from TELERADIOKOMPANIYA OSTANKINO TELEVISION FIRST PROGRAM NETWORK 2/28/92.
Tadjikistan has been selling natural uranium to the US through the Russian firm Techsnabeksport for the past five years.

3/3/92 - JPRS-PROLIFERATION ISSUES, "Illegal Nuclear Shipments Originated in USSR," originally from MOSKOVSKIYE NOVOSTI 2/16/92.
Karl Friedrich Federer, a Swiss citizen, was arrested with a tablet containing 0.2 mg of plutonium. The tablet was supplied by Techsnabexport, address 32/34, Smolenskaya-Sennaya, Moscow, and is used to set gauges during work with fissionable materials. A month later, 30 kg of U-235 originating in Irkutsk was seized in Zurich. The following month, four couriers were arrested in Milan carrying 2 kg of red mercury, a radioactive material used in the Soviet nuclear industry as a good heat conductor.

3/3/92 - JPRS-PROLIFERATION ISSUES, "Clandestine Nuclear Exports from CIS Viewed," originally from L'ESPRESSO 2/16/92.

Four Eastern Europeans were arrested in Milan on 1/8 for smuggling two kg of red mercury and some scandium. Three of the smugglers, Sandor Bekefalvi, Robert Kiraly and Josef Nagy were Hungarian and the fourth, Dezider Ostrogonac was Austrian. Investigators believe that the red mercury was produced in Kiev, Tbilisi and Uzgorad in Ukraine, which is located only 15 km from the Hungarian border. The material was stored in the warehouses of Elektromodul, whose headquarters are in Budapest. From there, the mercury was to be shipped to countries such as Iran, South Africa, Israel, Argentina, India and Pakistan. Soviet arms and equipment travel along the same route. These materials are located in arsenals created by the Warsaw Pact in the former Soviet satellite countries, especially Czechoslovakia. KGB agents travel freely in these trade zones. Viktor Mikhailov, head of the Ministry of Atomic Power and Industry, has been encouraging the sale abroad of nuclear technologies for peaceful use.

3/92 - FBIS-CENTRAL EURASIA, "Radioactive Mercury Stolen From Belarus Combine," originally from RUSSIAN TELEVISION NETWORK 3/19/92.

About 2000 kg of radioactive "spent mercury" were stolen from the Belaruskaliy metallurgical complex.

Spring 1992 - PPNN NEWSBRIEF, "Canada," p. 4 from THE TORONTO STAR 1/9/92.

Atomic Energy of Canada, Ltd., is buying two tons of heavy water from the Kurchatov Institute in Moscow, and could buy more in the future.

Spring 1992 - HARVARD INTERNATIONAL REVIEW, "Exodus: Containing the Spread of Soviet Nuclear Capabilities," William C. Potter, pp. 26-29, 64.

There are inconclusive reports that private organizations within the former USSR have purchased zirconium, beryllium, graphite, low-enriched uranium, plutonium and tritium at discounted prices from state manufacturing firms and have marketed them abroad.

2/27/92 - JPRS-PROLIFERATION ISSUES, "Access to Nuclear Bombs Never So Simple," originally from NOVOSTI 2/26/92.

The RTL Plus television station filmed and broadcast the sale of a consignment of uranium to an Austrian firm to be resold to a third country. The price of the uranium was set at $500,000, to be sent by container from Kaliningrad.

2/16/92 - MOSKOVSKIE NOVOSTI

Techsnabexport was identified as the supplier of a plutonium tablet used to set gauges during work with fissionable material, which was confiscated in Como, Italy. A month later, police seized a consignment of uranium-235 that was traced back to Irkutsk. [See also FBIS-CENTRAL ASIA 2/13/92, p. 5 and FBIS FOREIGN PRESS NOTE 8/20/92.]

2/14/92 - INTERNATIONAL HERALD TRIBUNE, "Promise to Baker: Tadjikistan Will Curb Exports of Uranium," p. 1.

President Rakhmon Nabiyev agreed to adopt an American-designed program to restrict the sale of weapons components, and promised not to sell uranium to countries who could use it for bomb-building purposes. Tadjikistan, Turkmenistan and Uzbekistan are rich in uranium ore and have all been visited by high-ranking Iranian and Libyan delegations. A team of American arms-control experts will visit Tadjikistan to give advice in setting up a system of controls to prevent the unauthorized export of nuclear-weapons technology.

2/13/92 - NUCLEONICS WEEK, "Hoaxes and Frauds Proliferating Faster Than Ex-Soviet Uranium, pp. 1, 10-12, by Mark Hibbs, Laura Pilarski, Karoly Ravasz.

A person offering to sell 27 pellets of fresh uranium fuel containing 432 g of uranium was arrested in Bucharest, Hungary. The uranium had been produced for Romania's CANDU reactors, which are under construction.

Fifty pellets containing 800 g of uranium were seized, which were also meant to be fuel for Romania's reactors, and several people were arrested in Bekes County, Hungary. Romania also arrested suspects that were connected to the case.

In November 1991, Swiss officials seized a 29 kg mixture of natural and depleted uranium. The depleted uranium contained .4 percent uraniun-235. According to Swiss authorities, seven people are being prosecuted for fraud and the illegal import of uranium.

In late December 1991, customs officials in Rome's airport confiscated "a sealed Techsnabexport plutonium source" from an arriving passenger. The plutonium source contained 1 gram of plutonim, measuring about 37 million Becquerels.

2/5/92 - CIS TODAY (In Russian), from TASS, "Iranian Minister Denies Rumors that Kiev will supply Iran with weapons."

Iran's Minister of Foreign Affairs, Ali Akbar Veliati, declared that reports of Ukraine agreeing to supply Iran with weapons are completely groundless. The Minister called reports in the Western Press of Iranian invitations to Soviet nuclear scientists "hostile propaganda."

2/92 - DEFENSE AND FOREIGN AFFAIRS STRATEGIC POLICY, SPECIAL SECTION BY YOSS

In 1/92, Tadjikistan reportedly had 15 kg of the material available for sale, but Tajik authorities declared that they would not sell uranium abroad.

January/February 1992 - ARMS CONTROL TODAY, "Exports and Experts: Proliferation Risks from the New Commonwealth," William Potter, pp. 32-37.

In a black market sting operation in 10/92, Italian police seized a "very small quantity" of weapon-grade plutonium which was apparently being offered as a sample of what could be purchased in larger amounts. Unconfirmed reports indicate that the material was of former Soviet origin.

January/February 1992 - BULLETIN OF THE ATOMIC SCIENTISTS, "So Little Time, So Many Weapons, So Much to Do," pp. 13-16.

Soviet stockpiles of weapons and fissile material contain 700-1,000 tons of plutonium and highly-enriched uranium. In the chaotic Soviet Union, conditions are excellent for the unsafeguarded sale of these materials for hard currency. The article presses for better methods of verifying nuclear warhead destruction.

1/31/92 - JPRS-PROLIFERATION ISSUES, "USSR Nuclear Materials Trafficking Investigated," originally from AFP 12/30/92.

Romano Dolce, the Italian investigator charged with prosecuting the seven people involved in the smuggling of almost 2 kg (64 lbs) of uranium in Zurich, has begun a probe of the origin and destination of these materials. The material was designated as "poor" uranium which could only be headed for countries that already possessed Soviet technology, such as Iraq. Dolce said the smuggling could also involve nuclear warheads. Two men, Oleg Petrovsky, an alleged GRU agent and Vitali Tarciuk, a Ukrainian KGB agent, were caught smuggling material out of the Irkutsk military center in Siberia. The ringleaders were allowed to go free, because Italian law does not cover the smuggling of nuclear material.

1/31/92 - JPRS-PROLIFERATION ISSUES, "Arrests Made in Soviet Nuclear Material Trade," originally from AFP 1/9/92.

Three Hungarians and an Austrian were arrested in Milan with two bottles of red mercury of Soviet origin. The case began with the seizure of plutonium in Como, Italy, which led to the seizure of 29 kg of unenriched uranium in Zurich. Dolce said the material was from the CIS, notably from Irkutsk, and headed to Arab countries that have Soviet technology.

1/31/92 - JPRS-PROLIFERATION ISSUES, "Arrests of Nuclear Traffickers Detailed," originally from BUDAPEST KOSSUTH RADIO NETWORK 1/9/92.

Three Hungarians and an Austrian have been arrested in Milan for smuggling mercury oxide. In addition to Italians, Swiss, Austrians and Czechoslovaks are suspected of being involved in the trafficking. Two Russian military agents implemented in this case are suspected of organizing the sale of uranium and plutonium from Ukraine and Irkutsk. The confiscated material is being investigated to determine if it is the type used in nuclear technology.

1/31/92 - JPRS-PROLIFERATION ISSUES, "Reports of Unsanctioned Uranium Sales Unconfirmed," originally from RUSSIAN TELEVISION NETWORK 1/14/92.

At a news conference given by the Russian Ministry of Atomic Power and Industry, the department said it did not know of any instances of uranium being leaked abroad in the last 40 years. Allegations that trademarks of the Irkutsk Works have been found on confiscated uranium samples are unconfirmed. All uranium enrichment plants and facilities producing weapons-grade plutonium are located on Russian territory, and Russia will not allow radioactive material to be sold to Middle East countries.

1/31/92 - JPRS-PROLIFERATION ISSUES, "IAEA to Monitor Nuclear Materials Trafficking," originally from AFP 1/3/92.

The IAEA is seeking more power to monitor nuclear installations to prevent the illegal trafficking of nuclear materials. Austrian newspapers published reports on 1/2 that Tadjikistan intends to sell enriched uranium and atomic technology. Fears about widespread nuclear smuggling began in December with the investigation by Romano Dolce into the smuggling material through Switzerland and Italy and continued with the arrests of three Russians and a Bulgarian on charges of smuggling the chemical·compound red mercury.

1/29/92 - RADIO FREE EUROPE/RADIO LIBERTY DAILY REPORT no. 19, "Kazakhstan Denies Nuclear Sales Story."

Both Kazakhstan and Tadjikistan reject claims that they are selling nuclear weapons.

1/29/92 - IZVESTIYA, "Kazakhstan Will Not Trade Nuclear Weapons."

Despite the fact that Kazakhstan has declared its dedication to the ideals of nonproliferation of nuclear weapons, the foreign press continues to publish false information that Kazakhstan is selling nuclear weapons. The British DAILY MAIL asserted that Iran could obtain ballistic missiles from Kazakhstan. President Nazarbaev of Kazakhstan has already made at least two visits to Iran. Kazakhstan's Ministry of Foreign Affairs claims such reports are meant to damage Kazakhstan's international autonomy on the eve of its joining the United Nations.

1/28/92 - TASS, "STERN: Libya Attempts to Use the Service of Russian Nuclear Scientists."

A correspondent from Dushanbe reports being offered 15 kg of enriched U-235, enough to build an atomic bomb.

1/22/92 - TASS, "Congressman Bennett Expresses Worry Over the Possibility of Sales of Soviet Nuclear Technology to Third World Countries."

Congressman Charles Baker called for immediate and concrete measures to be taken to keep Soviet technologies and scientists from reaching Asian and Near Eastern countries, reported THE CHRISTIAN SCIENCE MONITOR. To this end, all 27 thousand nuclear warheads in the FSU must be inventoried and guarded, including those slated for destruction through START, to prevent possible sales of these weapons.

1/21/92 - THE CHRISTIAN SCIENCE MONITOR, "Stanching the Nuclear Leakage From the Soviet Union," p. 19.

An Italian prosecutor claims that 66 pounds of Soviet uranium seized in Italy were bound for Iraq and Libya and that nuclear artillery shells from a military base near Mongolia have been clandestinely sold. US officials have not confirmed these reports.

1/16/92 - THE WASHINGTON POST "Gates Fears Soviet 'Brain Drain'," p. A22.

Administration officials cite reports of possible sales of Soviet fissionable materials in Italy and Switzerland. Gates expects to see many scams involving supposedly valuable material.

1/14/92 - THE BOSTON GLOBE, "A Move to Douse Nuclear Fire Sale," p. 1A.

Diversion of nuclear fuel and components is a long-term concern, says Stan Norris of NRDC. Reports have been circulating of Soviet conventional weapons heading to countries like Iran, although no weapons are known to have fallen into the "wrong" hands. Under a US proposal, the US would exchange food for Russian stockpiles of enriched uranium, which the Soviets are having trouble storing.

1/12/92 - THE NEW YORK TIMES, "A 'No Sale' Sign on Soviet Arms," p. 18.

To reduce the danger of Soviet arms being sold abroad, the US should help remove, store and dismantle these weapons on Soviet soil. All fissile material left from disabled weapons should be placed under joint US/Russian supervision, to prevent sales for hard currency.

1/11/92 - THE LOS ANGELES TIMES, "Fears Grow that Soviet A-Arms Are on Market," p. A1.

A Russian Foreign Ministry spokesman confirmed that arms sales to Iraq are under way. An Egyptian newspaper reported that Iran purchased three nuclear weapons from a former Soviet republic for over $150 million. Shevarnadze is concerned that nuclear weapons could fall into the hands of paramilitary groups. An administration arms control delegation is scheduled to meet with leaders of Russia, Kazakhstan, Ukraine and Belarus to discuss export controls.

1/10/92 - FBIS-CENTRAL EURASIA, "Continuing Smuggling of Radioactive Materials," originally from TASS 1/9/92.

Four foreign nationals were detained in Milan on 1/8 for attempting to sell 2 kg of red mercury of Soviet origin. Italian investigators say they have evidence that nuclear substances and materials for their purification are being smuggled through Austria, Switzerland and Italy to some Middle Eastern countries. The four arrested in Milan arrived from Budapest with mercury kept in two containers made of special glass with Cyrillic inscriptions. The mercury, thought to be a sample from a large shipment of radioactive substances, was being offered for $800,000, much less than the usual asking price for red mercury, $50-100 million.

1/9/92 - USA TODAY, "Outlaws in Search of Nuclear Know-how," (Interview with Leonard Spector), p. 13A.

Spector sees a danger of nuclear material leaking out of the FSU. He points to an episode in which Soviet weapons-grade plutonium was intercepted in Italy. [See also ARMS CONTROL TODAY Jan./Feb. 1992.]

1/8/92 - LITERATURNAYA GAZETA, "A Pinch of Uranium and Everything Falls

Apart."

Italian and Swiss police confiscated Soviet uranium and plutonium offered for sale. Romano Dolce, an Italian prosecutor, said the nuclear material was bound for Iraq and Libya. A Milan newspaper asserted the involvement of KGB agents and Soviet military officers seeking money for illegal materials. Tactical nuclear weapons are also being sold for $20 million each. Nuclear artillery shells from a military base in Irkutsk have also been seen for sale. V. Vorontsov, former Minister of Environmental Protection, believes such leakage of nuclear materials and weapons occurs as control over the materials weakens.

1/2/92 - REUTER, "Tadjikistan Ostensibly Offering Materials For Nuclear Weapons."

Tadjikistan's Parliament disclosed that Tadjik leadership is thinking of selling enriched uranium and technology for uranium production abroad. Interested parties from Saudi Arabia, Iran, Iraq, Turkey and Pakistan have reportedly visited Dushanbe, Tadjikistan's capital.

1/1/92 - THE NEW YORK TIMES, "US Report Warns of Risk in Spread of Nuclear Skills."

The American Administration could not confirm that 65 pounds of low-enriched uranium seized in northern Italy last month and plutonium seized in Switzerland last October were of Soviet origin.

12/31/91 - UPI, "Soviets Reported Trying to Sell A-Materials," p. A12.

Romano Dolce, an Italian prosecutor, said proof of illegal Soviet trafficking in plutonium and uranium was provided after the confiscation of 66 pounds of Soviet uranium last month in Switzerland. He declared the material was destined for "countries using East Bloc technologies such as Iraq and Libya." Dolce is investigating the seizure of a plutonium sample in northern Italy. US experts have identified both plutonium and uranium as being of Soviet origin. Investigators found evidence of the sale of nuclear artillery shells from an Irkutsk military base.

12/31/91 - THE WASHINGTON TIMES, "Soviets Said to Sell Nuclear Supplies," p. A8.

Repeats above information. Adds that former agents of Soviet KGB and GRU were smuggling nuclear material abroad to raise cash. Besides the plutonium and uranium, battlefield nuclear weapons were being sold for $20 million each.

12/20/91 - THE LOS ANGELES TIMES, "CIA To Increase Scrutiny of Allies' Trade Moves," p. A16.

Director Robert Gates says the CIA has not yet seen evidence of Soviet nuclear intelligence or know-how being leaked to other countries, but is intensifying scrutiny of the trade policies of US allies to keep nuclear proliferation in check.

12/20/91 - THE LOS ANGELES TIMES, "A Cash-and-Carry Offer for the New Nuclear Republics," p. B6.

US should provide massive aid to the FSU to prevent nuclear weapons sales to Third World.

12/20-29/91 - ZA RUBEZHOM, "What is Russia Waiting For?," p. 1.

The International Chetek Corporation's offering of peaceful nuclear explosions could inspire a wave of Soviet nuclear mercenaries, says Dr. William Potter of the Center for Non-Proliferation Studies at the Monterey Institute.

12/16/91 - BBC, "Ministry Warns of 'Red Mercury' on Black Market," p. B1,

from BULGARIAN TELEGRAPH AGENCY 12/11/91.
Bulgarian authorities have seized "red mercury" from black market traders on "several occasions."

12/14/91 - THE LOS ANGELES TIMES, "US Gives Soviets Proposals to Block Nuclear Exports," p. A10.
The US has made concrete proposals to four Soviet republics aimed at blocking unauthorized exports of weapons or technology.

12/12/91 - THE CHRISTIAN SCIENCE MONITOR, "Have Bomb, Will Travel," p. 19.
Lack of safeguards on Soviet nuclear material poses a massive proliferation risk.

12/11/91 - THE WASHINGTON POST, "CIA Director Warns of Civil Disorder This Winter in Soviet Union," p. A31.
Gates fears that Soviet agencies involved with weapon and missile projects might turn to Third World buyers to keep themselves in business.

12/10/91 - THE TORONTO STAR, "Nukes For Sale?," p. A19.
Red Army troops in Eastern Europe and the former Soviet Union are reportedly selling conventional weapons for cash to the highest bidder, and nuclear sales may soon follow.

12/8/91 - THE WASHINGTON POST, "Explosive Disunion: The Trade in Soviet Nuclear Know-how," p. C4.
The article details the effect illegal transfers of nuclear materials could have on such countries as India, Brazil, Israel and Pakistan. Includes information on past Soviet heavy-water shipments to India.

12/8/91 - THE WASHINGTON TIMES, "Soviet Nuclear Yard Sale," p. B1.
Soviet tanks and missiles have been put up for sale in Dubai, with rumors of satellites and fears of fast-breeder reactors, enriched uranium, heavy water and PNEs available to the highest bidder.

11/25/91 - DEFENSE NEWS, "New Soviet Nuclear Challenge," p. 20.
MAPI and Arzamas 16, with Chetek's financial aid, are developing a commercial plan for Peaceful Nuclear Explosions (PNEs). A radiochemical enterprise near Dodonovo, which has nuclear reactors, is also associated with private commercial interests. Tenex no longer has the monopoly over Soviet nuclear exports.

11/21/91 - NEWSDAY, "Nuclear Alarm," p. 3.
Plutonium and enriched uranium seized in Western Europe may have been of Soviet origin.

11/13/91 - CORSERA, "Uranium Traffic From the USSR to the Como Area."
Thirty kilos of radioactive material, possibly uranium and plutonium, probably taken from a Soviet arsenal and exported to Europe during the August coup, were seized in Zurich. The seizure was a continuation of an event in October, where two Swiss citizens came forward to the District Attorney of Como and reported their attempt to sell 30 kilos of uranium and 10 of plutonium, stolen from the USSR, to a Middle East country.

8/30/91 - THE WALL STREET JOURNAL, "Crisis Fallout: The Soviet Turmoil Up-ends Nuclear Safety Strategies," p. A1.
Private cooperatives in the USSR have begun selling alloys of beryllium and zirconium used in nuclear weapons. Traders have tried selling nuclear reactors that produce plutonium to such countries as Israel, Pakistan and Argentina.

# APPENDIX B.

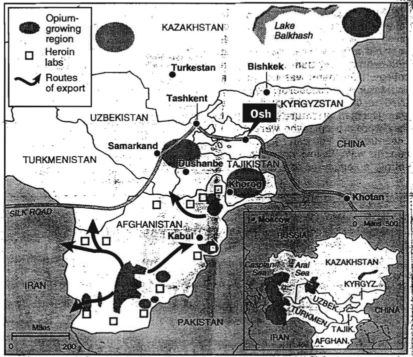
## MAPS OF RUSSIAN NUCLEAR FACILITIES AND SMUGGLING ROUTES

The maps contained in this Appendix graphically illustrate the routes smugglers frequent in and around the southern borders of Russia and the Newly Independent States (NIS). Access to nuclear facilities and locations are also documented on these maps.

THE NEW YORK TIMES INTERNATIONAL TUESDAY, MAY 2, 1995

# Opium Finds Its Silk Road In Chaos of Central Asia

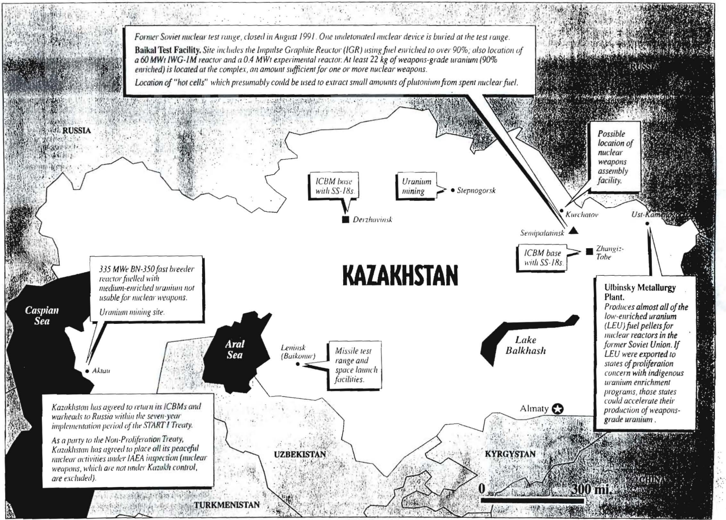
By MICHAEL SPECTER



The New York Times

Osh is a dispatch point for drug routes to Russia, Asia and Europe.

## **KAZAKHSTAN:** Nuclear Weapons and Other Sites of Proliferation Concern



*Former Soviet nuclear test range, closed in August 1991. One undetonated nuclear device is buried at the test range.*

**Baikal Test Facility.** *Site includes the Impulse Graphite Reactor (IGR) using fuel enriched to over 90%; also location of a 60 MWt IWG-1M reactor and a 0.4 MWt experimental reactor. At least 22 kg of weapons-grade uranium (90% enriched) is located at the complex, an amount sufficient for one or more nuclear weapons.*

*Location of "hot cells" which presumably could be used to extract small amounts of plutonium from spent nuclear fuel.*

*Possible location of nuclear weapons assembly facility.*

*ICBM base with SS-18s.*

*Uranium mining*

*ICBM base with SS-18s.*

*335 MWe BN-350 fast breeder reactor fuelled with medium-enriched uranium not usable for nuclear weapons.*

*Uranium mining site.*

*Missile test range and space launch facilities.*

**Ulbinsky Metallurgy Plant.**
*Produces almost all of the low-enriched uranium (LEU) fuel pellets for nuclear reactors in the former Soviet Union. If LEU were exported to states of proliferation concern with indigenous uranium enrichment programs, those states could accelerate their production of weapons-grade uranium.*

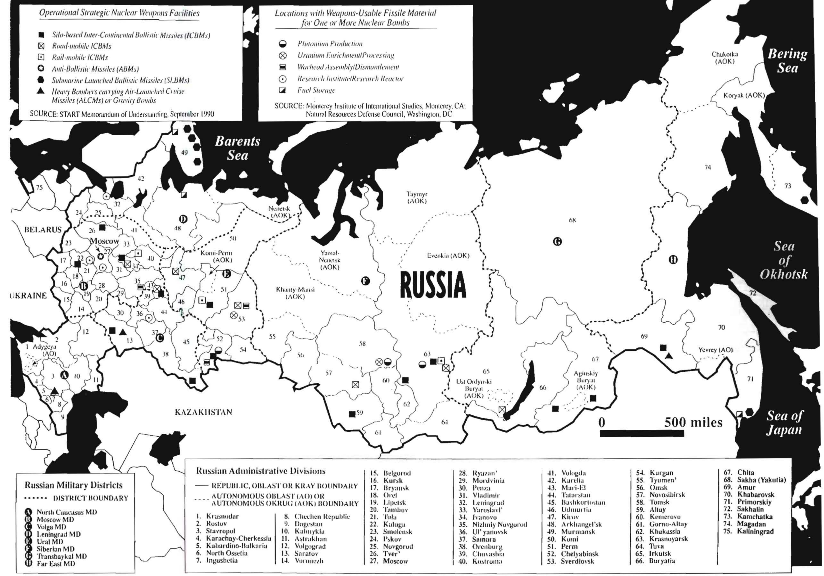
*Kazakhstan has agreed to return its ICBMs and warheads to Russia within the seven-year implementation period of the START I Treaty.*

*As a party to the Non-Proliferation Treaty, Kazakhstan has agreed to place all its peaceful nuclear activities under IAEA inspection (nuclear weapons, which are not under Kazakh control, are excluded).*

Carnegie Endowment for International Peace

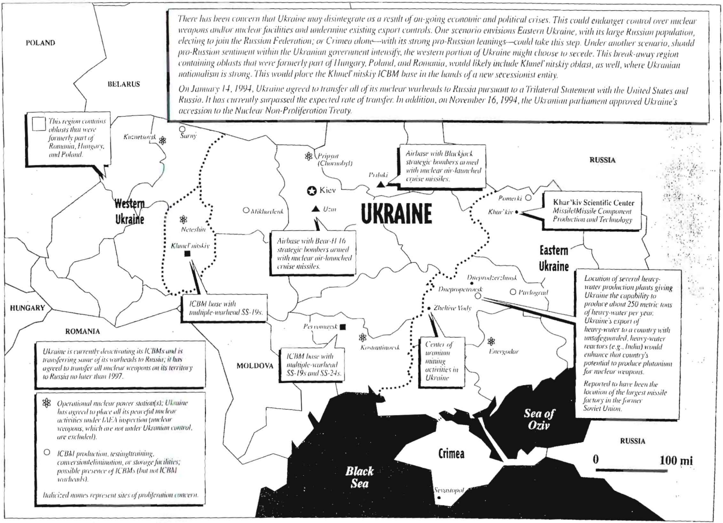
SOURCE: William Potter, *Nuclear Profiles of the Soviet Successor States*, 1993

# Russia's Nuclear Weapons Infrastructure



Carnegie Endowment for International Peace

# **UKRAINE:** Nuclear Weapons and Other Sites of Proliferation Concern



*There has been concern that Ukraine may disintegrate as a result of on-going economic and political crises. This could endanger control over nuclear weapons and/or nuclear facilities and undermine existing export controls. One scenario envisions Eastern Ukraine, with its large Russian population, electing to join the Russian Federation; or Crimea alone—with its strong pro-Russian leanings—could take this step. Under another scenario, should pro-Russian sentiment within the Ukranian government intensify, the western portion of Ukraine might choose to secede. This break-away region containing oblasts that were formerly part of Hungary, Poland, and Romania, would likely include Khmel'nitskiy oblast, as well, where Ukranian nationalism is strong. This would place the Khmel'nitskiy ICBM base in the hands of a new secessionist entity.*

*On January 14, 1994, Ukraine agreed to transfer all of its nuclear warheads to Russia pursuant to a Trilateral Statement with the United States and Russia. It has currently surpassed the expected rate of transfer. In addition, on November 16, 1994, the Ukranian parliament approved Ukraine's accession to the Nuclear Non-Proliferation Treaty.*

☐ *This region contains oblasts that were formerly part of Romania, Hungary, and Poland.*

*Airbase with Blackjack strategic bombers armed with nuclear air-launched cruise missiles.*

*Airbase with Bear-H 16 strategic bombers armed with nuclear air-launched cruise missiles.*

**Khar'kiv Scientific Center**
*Missile/Missile Component Production and Technology*

*ICBM base with multiple-warhead SS-19s.*

*ICBM base with multiple-warhead SS-19s and SS-24s.*

*Center of uranium mining activities in Ukraine*

*Location of several heavy-water production plants giving Ukraine the capability to produce about 250 metric tons of heavy-water per year. Ukraine's export of heavy-water to a country with unsafeguarded, heavy-water reactors (e.g., India) would enhance that country's potential to produce plutonium for nuclear weapons.*

*Reported to have been the location of the largest missile factory in the former Soviet Union.*

*Ukraine is currently deactivating its ICBMs and is transferring some of its warheads to Russia; it has agreed to transfer all nuclear weapons on its territory to Russia no later than 1997.*

- ⚛ *Operational nuclear power station(s); Ukraine has agreed to place all its peaceful nuclear activities under IAEA inspection (nuclear weapons, which are not under Ukranian control, are excluded).*
- ○ *ICBM production, testing/training, conversion/elimination, or storage facilities; possible presence of ICBMs (but not ICBM warheads).*

*Italicized names represent sites of proliferation concern.*

Carnegie Endowment for International Peace

SOURCES: William Potter, *Nuclear Profiles of the Soviet Successor States*, 1993 and START Treaty Memorandum of Understanding, 1990.

# APPENDIX C.

## BCCI CONGRESSIONAL TESTIMONY

Appendix C contains testimony from Hearings before the Subcommittee on Terrorism, Narcotics, and International Operations. The following excerpts from the full five volume set contain evidence of the Central Intelligence Agencies (CIA) involvement with the Bank of Credit and Commerce International (BCCI), as well as BCCI's involvement in illegal weapons sales, smuggling of contraband (Drugs, people), assassinations, and lastly the movement of nuclear materials internationally.

S. HRG. 102-350, PT. 1

# THE BCCI AFFAIR

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# HEARINGS

BEFORE THE

## SUBCOMMITTEE ON
## TERRORISM, NARCOTICS, AND INTERNATIONAL OPERATIONS

U.S. CONGRESS. SENATE.

OF THE

## COMMITTEE ON FOREIGN RELATIONS
## UNITED STATES SENATE

ONE HUNDRED SECOND CONGRESS

FIRST SESSION

AUGUST 1, 2 AND 8, 1991

## PART 1

Printed for the use of the Committee on Foreign Relations

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Central Intelligence Agency

Washington, D.C. 20505

23 July 1991
OCA 1535-91/1

The Honorable John F. Kerry
Chairman
Subcommittee on Terrorism, Narcotics and
International Operations
Committee on Foreign Relations
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

This is in response to your letter of May 14, 1991 regarding the Bank of Credit and Commerce International (BCCI). I apologize for the length of time it has taken to respond.

Your letter requested a copy of a memorandum prepared by CIA that was made available to former Customs Commissioner William Von Raab, and information on CIA's relationship with BCCI. We have now located a 1986 working paper prepared on BCCI, and an update of that paper prepared in 1989. While we cannot be certain, we believe it is likely that the 1986 paper is the document reviewed by Mr. Von Raab. The updated version of this paper was clearly disseminated to the Customs Service. Because of the extremely sensitive nature of this information, we will make it available to you through the Senate Select Committee on Intelligence. I have provided the two documents to Mr. George Tenet, Staff Director of the Intelligence Committee, and I have asked him to make them available to you or appropriately cleared members of your staff for review in the Intelligence Committee's secure space.

Our Inspector General is currently reviewing the matter of any CIA use of BCCI, and will provide a report of his findings to the House and Senate Intelligence Committees.

If we can be of any further assistance in this matter, do not hesitate to contact us.

Sincerely,

William H. Webster
Director of Central Intelligence

12TH STORY of Level 1 printed in FULL format.

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November 17, 1977, Thursday, Final Edition

SECTION: First Section; A1

LENGTH: 380 words

HEADLINE: Helms as Consultant;
Helms to Operate An International Consulting Firm;
A Go-Between for Iranian Businesses

BYLINE: By Bill Richards, Washington Post Staff Writer

BODY:

Former Ambassador to Iran Richard M. Helms has opened an international consulting firm here which he said yesterday will concentrate on developing business interests in the United States for Iranian companies.

Helms, 64, said, "I might be a go-between or represent Iranian interests who would want to do something in this country." He said he named his new consulting business the Safeer Company because Safeer means "ambassador" in the Persian language of Farsi.

Helms was fined $2,000 and given a two-year suspended sentence Nov. 4 after he pleaded no contest in federal court here to two counts of failing to testify fully and accurately before a Senate committee considering his nomination to be ambassador to Iran in 1973.

The charges against Helms were related to his testimony on two occasions before the Senate Foreign Relations Committee. He testified that the Central Intelligence Agency, which he formerly headed, had not interferred in political affairs related to the late Chilean President Salvador Allende.

Helms' new role as prospective "go-between" for Iranian interest seeking business in the United States could possibly embroil him with the U.S. regulations governing conflicts of interest for former federal employees.

The U.S. Criminal Code prohibits former government employees from taking part for at least one year in proceedings involving foreign individuals or corporations which might have fallen under their official responsibility.

Helms officially resigned from his Iranian ambassadorship Jan. 31 of this year. Legal experts were unclear yesterday whether Helms' role as ambassador would have given him specific responsibility under the U.S. code for Iranian firms or persons doing business here.

Helms said he formed his consulting firm Oct. 3 in association with Iranian businessman Rahim M. Irvani. Irvani is an executive of the Melli Industrial Group in Tehran. The consulting firm has not yet accepted any clients, and Helms said he has not registered here as alobbyist.

"I'm quite different from a lobbyist he said. "I'm not trying to influence our government or our country. All I'm trying to do is help our balance of payments."

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MEMORANDUM

TO: Senator John F. Kerry
FROM: Jack A. Blum
DATE: October 7, 1988
SUBJECT: BCCI: The Takedown, Background and Talking Points

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Background

During the next three days more than eighty people associated with the Bank of Credit and Commerce International and related companies will be arrested for money laundering and drug dealing. The arrests will be in more than a dozen locations here and in Europe and have been carefully coordinated.

At the same time the bank itself and a variety of acounts which have been indentified as drug accounts will be seized here and in London and Paris. The seizures should total more than $50 million dollars if the police are lucky.

The operation is being run by the Customs service. The Customs Service, the Treasury Department and the Justice Department will have a joint press conference. My understanding is that they are working on snappy graphics and an elaborate show.

This is the centerpiece of a three part drug extravaganza set for next week. The other peices involve large scale arrests directed at the Jamaican posses and a roundup of a large smuggling organization. All of this is timed to preceed the Thursday debate.

The Customs operation is the result of a two year sting operation. Officials of the bank were lured into a house in Tampa rigged up as a recording studio where a variety of drug deals were proposed and transacted. The indictments all come off the underoverwork and do not really tie the bank back to Noriega. Further, the investigators have a somewhat limited knowledge of the bank's shareholders, business activities and other connections.

Our investigation of the bank began in April of 1987 when we first heard reports of their involvement in money laundering activities. The reports ripened into the public testimony of Jose Blandon who identified the bank as part of the Noriega Criminal Empire and the testimony of Leigh Rich and Mike Vogel who said that they were directed to the bank by Noriega to launder money.

In March 1988 the Committee voted to issue subpoenas against the bank and a number of named individuals. When the Subpoenas were voted the Justice Department asked the committee to delay its investigation because of the undercover operation underway.

We agreed to the delay and told the Department that we did not want to do anything to endanger their work.

At that time I talked to Joe Magri, the Chief Assistant in the Tampa office about the case. I told Magri that we had information about Noriega's invovlement with the bank. I tried to describe the international operations of the bank and encouraged the U.S. Attorney to look at the larger international picture. In subsequent conversations I shared a considerable amount of background information about the bank.

I continued to develop information about the bank through a former high level officer who was not involved in the criminal activity but suspected it was going on and quit because he did not like what the bank was doing. [redacted].

The attached documents and the deposition should give you all the information you need to handle the press inquiries. In my veiw once Awan is arrested all our promises about keeping his material confidential are off. I plan to call Altman shortly after the arrests and tell him that all bets are off.

The only piece of information missing from the package is about two other Pakistanis and two affiliated companies who will be taken down at the same time. They are Capcom Finacial Services, Ltd. a commodities brokerage firm with offices in London, Miami and Chicago, and its President Mr. Akbar as well as a London based trading company run by Mr. Ali Shaik.

Capcom is owned by the Saudi, Gaith Pharon, who financed Akbar's entry into the business. People who know Pharon are certain that he would know that the company was engaging in illegal activity because he keeps his investments under very close watch. We have met with Mr. Akbar on two occasions he lied about the nature of his activities but gave us some general background.

Ali Akbar was the man who arranged the billion dollar loan to the government of Nigeria. He developed close relationships with the Nigerian government and we believe is involved in the laundering of heroin money through New York and Lagos.

New Material for the Press

We should release the details of the bank's dealings with Noriega, the Awan transcript, and the Noriega hotel bills. You should ask why the government didn't do more to tie up Noriega's money.

Note that the Swiss government has decided not to cooperate in the takedown and complain about the Swiss lack of cooperation.

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Note that the Saudis who own the bank are the same people who own First American in Washington. This will not be mentioned by the Feds although the press will be very aware of it.

This bank has close connections with the government of Bolivia and the top people in that government. The President of Nigeria keeps his account with the bank and the bank is close to the Nigerian Government. Note the international implications.

The bank is uninsured and will most likely fail as the result of seizure and the raid because it will be followed by a run which the bank cannot meet. Luxembourg does not back up its financial instiutions and no central bank will keep BCCI afloat.

Note that key Saudi shareholders were involved in financing operations for the U.S. in Central America and it is widely believed they were involved elsewhere. This raises the question of whether the bank has intelligence connections. (Sources in the intelligence community have said on an off the record basis that it does have connections.)

This will be the largest financial scandal in world hisory and repeats a pattern we have seen before starting with Bernard Cornfeld in I.O.S. followed by Vesco then Nugen Hand Bank and Bishop Rewald. IOS was a $2 Billion dollar offshore fund, this is a $20 billion institution.

You must alert the debate preparation team that this is going to happen and prepare them for it.

We should take credit for fingering the situation and clearly make the press look at the big picture rather than focus on the busts and the bad guy transactions.

You are set with NBC for Tuesday and the Today show Wednesday morning.

I would stress the questions it raises and insist on full investigation of the related companies and the other connections to governments.

BCCI has very strong relationships in China and is said to be the largest foreign bank operation in that country. Part of the strength of the relationship is based on the relationship between the Chinese and the Pakistanis and the political connections between Abadi and President Zia. [redacted] said that when Abadi had his heart attack Zia was told about it and left his dinner table and guests to go to the hospital to be with him.

[redacted]

[redacted] believes that there are regional records on the large deposit relationships which are kept in Miami because the account executives are paid on a percentage of the deposits which the generate. The region must know about there deposits no matter where they are booked so that the individuals involved can be rewarded appropriately.

I asked [redacted] if the operation wan similar to the Kornfeld-Vesco IOS scam of the 1970's and he said that it was. The difference is that the operation has taken the form of a bank rather than a mutual fund and the techniques for moveing money have become more sophisticated that the salement carrying suitcases employed by Kornfeld.

Blum Observation: The Bank appears to be both a major money laundering operation and to have relationships with the intelligence community. Much of what was described by Calvo can be verified by getting the Bank records from the Miami office and from the individuals involved.

The key players are:

[redacted]

2. Bank of Credit and Commerce International Overseas Limited, Miami Agency 19th Floor 1200 Brickell Avenue

3. Bank of Credit and Commerce, Latin American Region, 15th floor

[redacted]

him and his family yesterday. He has two very attractive, intelligent young children who are feeling the pressures of this transition. And his wife is here, who joins him, who is seated right in back of him. She is American, from New York, and is also feeling the tensions and pressures of what has happened to their life as a consequence of this.

Therefore, we really made a decision that because of the threat to physical safety, and because of his own personal feelings about the need to get this behind him, that we would proceed today. I personally talked to Senator Pell and to Senator Brown in order to clear with them the notion of proceeding forward. And Senator Brown, who cannot be here because he is on a trip out of the country.

Let me just review quickly for the record, the BCCI road that we have travelled to this point, and then Senator Cranston has asked me to read into the record a few comments of his, and he has submitted some questions.

First, we have learned a lot about BCCI to date. We know that BCCI was a bank whose senior officers created a web of corruption that extended literally around the world. Second, we know that because of its unique status of being located everywhere but regulated no where, in the context that most of us think of bank regulation, BCCI became a natural haven for the movement of narcotics money or the proceeds of crime, or even for nefarious deals.

Third, we know that BCCI's chief officer, Agha Hasan Abedi, and others systematically developed ties with leaders around the world, with people in positions of influence, and provided these people at various levels with favors and benefits of various kinds, ranging from creating charities to strengthening these leaders politically or otherwise, to helping to arrange arms deals, to creating slush funds of the kind that General Noriega had.

Fourth, BCCI used its political ties to obtain open control of many banks around the world, which became part of the BCCI family, and secret control of other banks, which we have seen in the case of a number of banks here in the United States.

Fifth, foreign and domestic intelligence agencies developed close ties to BCCI. We know of some of those ties, though not all of them. Knowing of BCCI's criminal activities, the CIA and other intelligence agencies, made use of BCCI for a variety of purposes, some yet to be disclosed.

Sixth, we know that law enforcement and regulators in this and in other countries had a certain amount of information, substantial by the late 1980's, concerning the nature and extent of BCCI's criminal schemes. And yet with the exception of the prosecution of some low-level personnel in Miami, that nothing seemed to happen until this issue hit the front pages, and until recently.

Seventh, we know that BCCI is an institution which lost billions of dollars, and we will hear something of how that happened this morning. And those billions in losses were systematically concealed by BCCI's leadership. And our witness this morning will define that leadership and the extent of the knowledge within the bank of that. And that this loss or series of losses were hidden in part by BCCI's practice of obtaining substantial central bank deposits from governments all over the world. The collapse of BCCI has already threatened some of these governments, and it will be some time before the full extent of government losses globally will be understood.

Eighth, we know that the accountants a lawyers hired by BCCI wound up helping the bank to conceal the true nature of its activities for some time, and that that occurred even after serious allegations had arisen about criminal activity. The consequence of these facts, largely hidden until recently, is now demonstrated daily around the world. In India, money laundering rackets involving BCCI and aides to assassinated Indian leader Rajiv Gandhi are now under investigation.

In Pakistan, issues arise about BCCI's involvement in its illegal nuclear arms development program.

In Egypt, the Government has closed BCCI on money laundering charges after a run on the bank.

In Argentina, as a result of hearings which this committee held last week, allegations have been raised that BCCI was brokering the sale of French Mirage jets to Saddam Hussein.

In Cameroon, a Government with few resources now has even less as a result of BCCI-related losses.

There isn't an American who doesn't understand the impact of the drug problem in this country. It's a problem for all of us, but also for people all around the world, not just Americans. And arms trafficking has brought misery around the globe. The spread of nuclear weapons, needless to say, creates even greater risks of confrontation and of destruction.

When a bank like BCCI moves drug money and big dollar weapons money, and helps terrorists acquire the material to make nuclear bombs, if that is what they did, while political leaders who were supposed to be protecting them move aside, then governments themselves wind up becoming partners in the enterprise of those criminals. A big part of this problem is that BCCI came to believe that it could buy anything and facilitate everything.

We have learned a lot in recent weeks, but I must say to you what strikes me particularly is the degree to which this bank thought it could steamroll any obstacles that lay in it's path. Certainly laws and standards were no barrier. Why? Because BCCI thought it could buy everything—buy lawyers, buy accountants, buy regulators, buy access, buy loyalty, buy government, buy safety, buy protection, and even buy silence. And what it could not buy or did not need to, it could facilitate.

You need a Mirage jet to go to Saddam Hussein, BCCI could facilitate it. If you wanted weapons in the Mideast and possibly even atomic weapons, who do you call? BCCI. You want drug money to move from cartel to safe haven. BCCI. It gave new meaning to the term "full service bank." [Laughter.]

Today, we continue the process of trying to understand what happened with BCCI and who was responsible. And hopefully, out of all this will come a stronger effort by government and the private sector to prevent this kind of behavior from scarring the political landscape, and the business landscape.

Mr. Rahman, we are very pleased to have you here today. You are an intelligent and thoughtful person who has spent a lifetime really in the field of finance and who understands this bank as under very difficult circumstances to uncover the truth about BCCI in that country.

Yesterday I spoke about a Financial Times journalist whose murder a few days ago in Guatemala may be related to his own probing of BCCI's ties to arms smuggling there.

Now in Argentina Menem has publicly rebuked the muckraking Buenos Aires daily newspaper, Pagina 12, in a way which appeared to harken back to the days of Argentina's authoritarian past. He has attempted in the crudest sort of way to smear Pagina 12 as an organ of terrorist and drug peddlers.

Pagina 12, which was recently written up in Time Magazine for its innovative and incisive reporting, has been giving extensive coverage to the BCCI scandal and its effects in Argentina. It has sought to investigate charges already in the public domain about involvement by Menem family members and friends in the drug trade.

Finally, it was Pagina 12 which unearthed the so-called Swiftgate scandal, an apparent attempt to extort an American company in Argentina. The attempt was allegedly made by a top government official.

I know how criticism, especially that from the fourth estate can hurt, but President Menem is way out of line. I urge him to stop.

Before we begin I would like to place into the record documents just received by the committee as a result of a subpoena of BCCI records in Miami. The 42 pages I am submitting seem to bear out some of the worst suspicions about BCCI's role in international arms trafficking.

The pages describe in a luxury of detail French Mirage III/B's owned by the Argentine Air Force. From them we learn that these planes were "modified to Argentine Air Force requirements following years of combat experience."

We also learn that they are constructed with Delta wings, have aerodynamic airflow fuselage, are powered by an improved and augmented ATAR 9c5 engine, and have a maximum air speed of 2 mach.

According to these documents, these airplanes include wing edge stations modified for Sidewinder and Shafrir missiles, making them very dangerous instruments of war.

On page 34, why BCCI has these documents, papers whose details suggest that somewhere they might be considered a military secret, comes into focus. All spares and repairs, the document on page 34 says, "will cover 2 years of operation at the organizational and intermediate levels. Long-lead items will be identified immediately after program go ahead to assure early procurement action."

The next page tells us that "ground support equipment will be provided for all models of aircraft." Adding, "The AAF"—presumably Argentine Air Force—"will provide an engine test cell—portable."

Page 38 concerns pilot training, "It is proposed that is the customer country training is required," the document reads, "the AAF is prepared to provide this training in Argentina. A complete flight

"After completion," it goes on, "the flight training AAF is prepared to provide a pilot in the customer country as an adviser for a defined period of time."

And concerning packing and crating, page 41 tells us that, "AAF will pack and crate logistic support material and store it at Rio Cuarto, Argentina, for picking up customer country."

Mr. Chairman, these documents exist. They are in our hands. They come to us from the liquidators of BCCI in Miami. The sequence of pages is as I read it. But in fact the best information was revealed right here on page 2 down in the right-hand corner where there is a little handwritten notation on these documents.

In pen someone, presumably from BCCI, has written in English, quote, "22 units of aircraft plus adequate spare parts, including six spare engines, at a price of $110 million." That is the end of that handwritten notation on the document.

I do not know what policy guidelines Argentina follows in procuring and selling weapons. I look forward to asking Mr. Alconada Sempé, who is a former Secretary of Defense, whether he has any knowledge of this proposed sale of 22 high technology fighters or whether this has been discussed publicly.

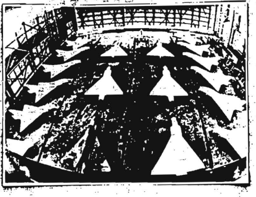
But I do find it worrisome, very worrisome, that BCCI Miami, an institution which served as Gen. Manuel Noriega's banker and about which all kinds of allegations of criminality abound, appears to have been given the go-ahead as a go-between for the sale of military instruments.

I also think these documents suggest in a very vivid way the degree of which Ghaith Pharaon and BCCI have penetrated to the upper reaches of government, including specifically, Argentina's political and/or military establishment, for the purpose of profiteering on the sale of weapons to Lord knows who. They speak of a customer country. These documents do not, however, make it clear where these weapons were headed.

But this is the sort of activity by this international bank that plainly cannot be tolerated. We have to understand all of its ramifications and then cope with what it takes to prevent this sort of thing from happening in the future.

Mr. Chairman, thank you very much.

[The information referred to follows:]



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Pd file 7/29

MIRAGE IIIC/D GENERAL DESCRIPTION

Manufactured by "AVIONS MARCEL DASSAULT" - France

Modified to Argentine Air Force requirements following years of combat experience.

Single Seat, Multi-purpose, over 2 Mach aircraft.

Constructed with Delta wings and aerodynamic airflow fuselage.

Powered by an improved and augmented "ATAR 9C5" engine.

22 units of Aircraft plus adequate spare parts including 6 spare engines at a price of 110,000,000

## MIRAGE IIIC/B

## CONFIGURATION

Improved "ATAR 09C5" Engine (instead of "ATAR 9B").
JM6 Ejection Seat (through canopy, zero speed, zero altitude).
Improved Drag Chute System.
System COM-NAV-Collins.
Structural improvements (Wing & Flight Control reinforcement).
Improved Outboard Carry Points, for air to surface armament.

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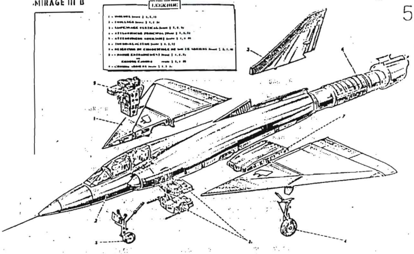
4.

## MIRAGE IIIB BASIC DATA TWO SEATER

| | |
|---|---|
| Wing Area | 34.8 sq.m |
| Aspect Ratio | 1.94 |
| Leading Edge Sweep | 60°36' |
| Average Wt.with Int.Fuel | 8833 kg. |
| Internal Fuel | 2550 liters |
| Max.Takeoff Gross Wt | 12000 kg. |
| C.G. Limit | 54.2 % |
| C.G. Average | 52.06 % |
| Max. Air Speed | 2 mach or 730 KIAS with external load |
| Engine - ATAR 9C | |
| Mil Power | 4300 kg. |
| Max. A.B. Power | 6000 kg. |

5



C 0001561

Date : Mars 1966

DECOMPOSITION DE L'AVION

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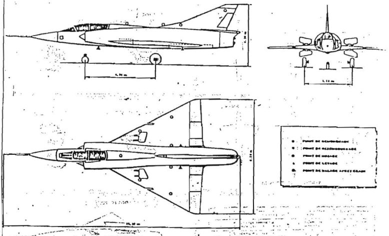
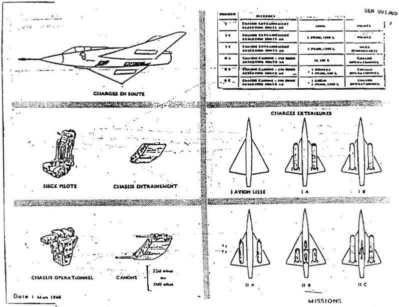
6



C 0001562

Date : Mars 1966

CARACTERISTIQUES GENERALES



| NUMERO | MISSIONS | [illegible] | [illegible] |
|---|---|---|---|
| I | CHASSIS ENTRAINEMENT<br>[illegible] SOUTE AA | LISSE | PILOTE |
| I A | CHASSIS ENTRAINEMENT<br>[illegible] SOUTE AA | 2 PEND. 1300 L. | PILOTE |
| I B | CHASSIS ENTRAINEMENT<br>[illegible] SOUTE AA | 2 PEND. 1300 L. | SIEGE<br>[illegible] |
| II A | CHASSIS CANONS + 250 OBUS<br>[illegible] SOUTE AA | [illegible] | CHASSIS OPERATIONNEL |
| II B | CHASSIS CANONS + 250 OBUS<br>[illegible] SOUTE AA | 1 [illegible]<br>2 PEND. 500 L. | CHASSIS OPERATIONNEL |
| II C | CHASSIS CANONS + 200 OBUS<br>[illegible] SOUTE AA | 1 ENGIN<br>2 PEND. 1300 L. | CHASSIS OPERATIONNEL |

Date 1 Mars 1966

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MIRAGE IIIC BASIC DATA SINGLE PLACE

Wing Area....................................34.8 sq.m.
Aspect Ratio.................................1.94
Leading Edge Sweep...........................60°36'
Average Wt. with int.Fuel....................8760 kg.
Internal Fuel................................2550 liters
Max. Takeoff Gross Wt........................12000 kg.
C.G. Limit...................................54.2 %
C.G. Average.................................52.2 %
Max. Air Speed...............................2 mach or 730 KIAS with external load

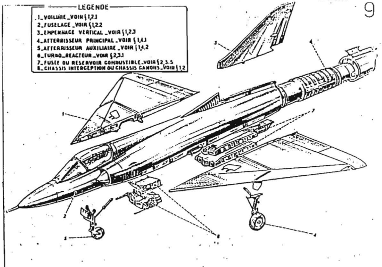
Engine - ATAR 9C

Mil.Power...........................4300 kg.
Max. A.B. Power.....................6000 kg.

9

LEGENDE

1_VOILURE_VOIR § 1,2.1
2_FUSELAGE_VOIR § 1,2.2
3_EMPENNAGE VERTICAL_VOIR § 1,2.3
4_ATTERRISSEUR PRINCIPAL_VOIR § 1,4.1
5_ATTERRISSEUR AUXILIAIRE_VOIR § 1,4.2
6_TURBO_REACTEUR_VOIR § 2,3.1
7_FUSEE OU RESERVOIR COMBUSTIBLE_VOIR § 2.3.5
8_CHASSIS INTERCEPTION OU CHASSIS CANONS_VOIR § 1.2



INDICE :

DECOMPOSITION DE L'AVION

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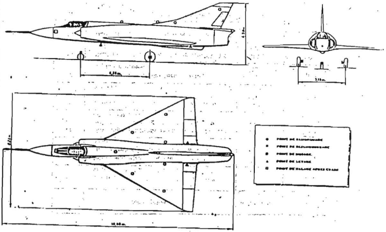
10



Date :

CARACTERISTIQUES GENERALES

## MAIN AIRCRAFT MODIFICATIONS

| No | Description | Applicable No. | ECP No. |
|---|---|---|---|
| 9 | Modification of Fuel Tank AMD 2182 vent & Fill Valve Control Cables | BJ<br>CJ | 1221 |
| 10 | Interconnection of Angle Of Attack Red warning lamp to Aural Warning system | BJ<br>CJ | 1929 |
| 11 | Gun Sight (CSP-55) Push-Button Control for manual scaling to 250, 450, 800 meter ranges | BJ<br>CJ | 1988<br>2126<br>[illegible] |
| 12 | Replacement of MLG latch Teleflex Control Cables by Rigid Rod Control system | BJ<br>CJ | 2001<br>2236 |
| 13 | Application of brake force during engine-shutdown | BJ<br>CJ | 2008 |
| 14 | Replacement of TRAP 21 by ARC51-AX radio sets | BJ<br>CJ | 2085<br>2158 |
| 15 | Deletion of Landing Approach Control system | BJ<br>CJ | 2090 |
| 16 | Reinforcement of Wing Skin near landing gear doors | BJ<br>CJ | 2112 |

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## MAIN AIRCRAFT MODIFICATIONS

| No. | Description | Applicable No. | ECP No. |
|---|---|---|---|
| 1 | Automatic Emergency Transmission by IFF, Completion of Previous Change | BJ<br>CJ | 388<br>1060 |
| 2 | Installation of Load Gauge for Indication of Heavy Landings. | CJ<br>BJ | 105 |
| 3 | Addition of Lube Fittings to Elevon and Rudder Hinge Assemblies | CJ | 028<br>878<br>1969 |
| 4 | Addition of Shut-Off Valve to Hydraulic System, for Prevention of NLG Retraction on Ground | BJ<br>CJ | 886<br>1846<br>2205 |
| 5 | Manual Switch for Servo System Electric Isolation Valve | BJ<br>CJ | 687 |
| 6 | Reinforcement of Outer Elevon Edges, for Prevention of Wear (NIT 187) | BJ<br>CJ | 730<br>2129 |
| 7 | Fabrication of Access Panel, to allow replacement of A/B Indication Gauge | BJ<br>CJ | 826 |
| 8 | Improvement of Electric Throttle for Engine Emergency Control | BJ<br>CJ | 888,<br>946,<br>1064,<br>1118,<br>2273 |

## AIRFRAME FLIGHT HOURS

| ORDER NUMBER | SERIAL NUMBER | TOTAL HOURS | NEXT PERIODIC INSPECTION | AVAILABLE HS. NEXT INSPECT. | INSPECTION CICLES TO CARRY OUT |
|---|---|---|---|---|---|
| 1 | C-701 | 2425 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 2 | C-702 | 2316 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 3 | C-703 | 2362 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 4 | C-704 | 2053 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 5 | C-705 | 1247 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 6 | C-706 | 2436 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 7 | C-707 | 2073 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 8 | C-708 | 2230 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 9 | C-709 | 2104 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 10 | C-710 | 1487 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 11 | C-711 | 1491 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 12 | C-712 | 1949 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 13 | C-713 | 2028 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 14 | C-714 | 1912 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 15 | C-715 | 1760 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 16 | C-716 | 1858 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 17 | C-717 | 1934 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 18 | C-718 | 1669 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 19 | C-719 | 1675 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 20 | C-720 (B) | 1775 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 21 | C-721 (B) | 1477 | V1 | 65:00 | V1-V2-V3-V2-V1-P |
| 22 | C-722 (B) | 1501 | V1 | 65:00 | V1-V2-V3-V2-V1-P |

NOTES:

1) Inspection cicles: V1-V2-V3 are carried out each 65:00 flight hours. On reaching to 390:00 hours, the aircraft goes into type "P" inspection.

2) All aircraft which have a general total of more than 2000 hours must go into overhaul at 3000 hours.
The remainder aircraft must go into overhaul at 2500 hours.

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## AIRCRAFT MAINTENANCE CONCEPT

| Organizational level | Intermediate level | Depot level |
|---|---|---|
| Pre-flight | Preventive Insp.<br>195 flight hours (V3)<br>Inspection | 2500/3000<br>flight hours<br>Inspection<br>(Overhaul) |
| Basic Post-Flight | 390 flight hours<br>(P) Inspection | |
| Weekly Inspection | Incorporation of<br>Engineering Changes | Incorporation of<br>Major Engineering<br>Changes (Structural) |
| Special Inspection<br>65 flight hours<br>(V1, V2) Inspection | | |

ENGINE

Model .................................... ATAR 9C5
Type .................................... Axial Flow with Afterburner
Compressor .............................. 9 Stages
Turbine .................................. 2 Stages
Combustor ................................ One, Annular
Nozzle ................................... Variable, 18 Flaps
Control .................................. Hydromechanical with Electrical
Emergency Regulation and Derichment
Firing Solenoid Valve
Starting ................................. Compressed Air Starter
Weight ................................... 1300 kg.
Length ................................... 658.9 cm (approx.)
Diameter ................................. 1050 cm (approx.)

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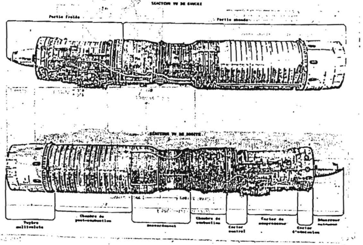
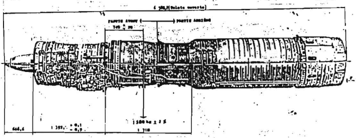
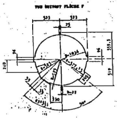


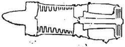
VUES D'ENSEMBLE

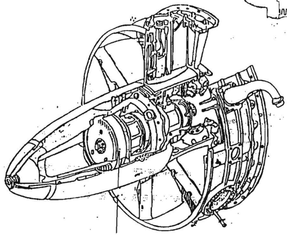




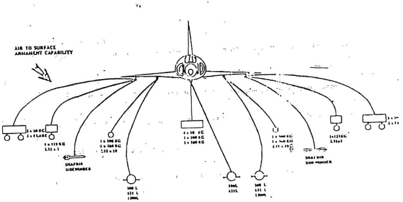
Masse totale : 1 380 ± 2 % kg

Cette masse est celle d'un réacteur sans huile, équipé du canal d'éjection [illegible] et de la prise de mouvement avion.





## MIRAGE IIIC — ARMAMENT



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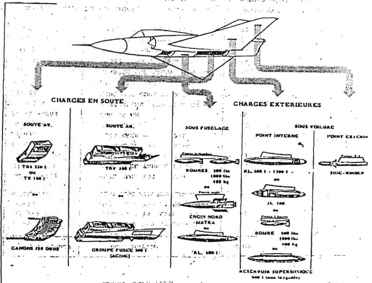
## MIRAGE III C



Date : Février 1964

MISSION

## MAINTENANCE TRAINING

AAF will provide an organizational and intermediate training program, including on-the-job training and will provide fully qualified instructor personnel to conduct the training. The training will be provided in Río Cuarto, Argentina.

TOTAL COST: To be negociated separately.

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## PACKING AND CRATING

AAF will pack and crate logistic support material and store it at Río Cuarto, Argentina for picking up customer country.

In relation to timetables it would be of assistance to us if you could inform us of the dates when you would like Mr Rahman to come to the United States and the likely timetable of events in relation to his appearance before the Committee.

If you do have any queries please do not hesitate to contact us and we will do all we can to be of assitance to you.

We look forward to hearing from you by return.

Yours faithfully

**MASONS**

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Senator KERRY. And I will read, as I promised Senator Cranston I would, his opening comments.

This is a statement by Senator Alan Cranston.

Thank you, Mr. Chairman. The events of the last 2 weeks have certainly contributed to the sense of the enormity of the scandal associated with the Bank of Credit and Commerce International, as well as to the feeling that we are still a long way of discovering the full truth about this criminal enterprise.

For that reason, I am pleased to add my welcome to our witness today. I hope he can shed the kind of light on this investigation which will not only illuminate, but also serve as beacon for further investigation. Since our hearings last week, information on several aspects of the BCCI scandal have come to my attention.

Mr. Chairman, as you remember, last week, I mentioned the case of the London Financial Times journalist, Anson Engh, who was found murdered in his Guatemala City apartment. At the time I mentioned the suspicion in journalism circles in Guatemala that Engh's murder was related to arms trafficking allegedly carried out by BCCI in collusion with top leaders of the Guatemalan military. Since then, information concerning Engh's death has come to my attention, that I believe is of direct concern to this committee's deliberations.

First, according to people who talked by phone with Engh in the days before his death, the British journalist mentioned to them he was working on a "big story" related to BCCI in Guatemala.

Second, although officials in Guatemala have sought to characterize Engh's assassination as the work of common criminals, the murder seems to be the work of professional hit men. In this regard, I mention the following details given to me by close friends of Engh. Apparently a silencer was used in the killing, which was done by a single bullet wound to the head. Guatemalan authorities said no bullet was found either in the body or in the apartment. I am told that Engh's head was wrapped in a towel and his body left in the bathroom, something consistent with efforts to keep the murder secret for a period of time.

According to those closest to Engh, a set of documents were stolen from his desk. And reportedly, the Guatemalan authorities have impounded a set of computer disks Engh used for his work.

Once again, I urge President Serano to take all necessary steps to insure that Engh's killers are brought to justice, no matter what their rank or station in life. Some have characterized, wrongly, BCCI's operation as a victimless crime. Anson Engh's death suggests how vacuous a lie that is.

Mr. Chairman, last week, I also brought to the committee's attention BCCI's apparent attempt to serve as an intermediary for the sale of 22 Mirage aircraft belonging to the Argentine air force. Yesterday my office received a very credible report concerning attempts to sell these sophisticated aircraft. According to a highly credible source in Argentina, whose name I cannot reveal, the planes were to be sold in August or September of 1989 by way of BCCI. The would-be purchaser was a man whose name later became sadly familiar to every household in our land, Saddam Hussein.

According to this Argentine source, whose honesty is not in question, BCCI in Argentina was working with a retired, high-ranking naval officer in promoting the sale. It apparently did not take place because of rivalries between the Argentine armed forces themselves.

Finally, Mr. Chairman, the role played by Pakistani authorities, both those of the current government and those of the Zia dictatorship in the BCCI scandal, have raised many questions, some of which I hope we can get answers to today. Among the questions I hope we can address are those concerning BCCI's role in Pakistan's nuclear program, its alleged participation in the destabilization overthrow of Benazir Bhutto's democratic government, the reported break off of U.S. foreign assistance moneys, and other issues of generalize corruption in Pakistan.

As I said, I hope there are some answers today, because, as one can see, there are no lack of questions. Thank you.

Senator KERRY. That completes the statement by Senator Alan Cranston which he asked that I read this morning.

Mr. Rahman, may I ask, please, that you stand so that I can swear you in? Would you raise the right hand? Do you swear to tell the truth, the whole truth, and nothing but the truth, so help you God?

[illegible] Mr. Bilbeisi violated the laws of the Central American countries—at least—of Honduras, El Salvador, and Guatemala, as well as the United States. He has recently been indicted in the southern district of Florida, and a copy of the entire criminal complaint and the indictment will be provided and made a part of the record.

That indictment relates to coffee smuggling and preparation and filings of false income tax returns. His accountant was also indicted. Mr. Bilbeisi, you should know, is presently residing in Amman, Jordan. As announced to the world press, he does not intend to return to the United States. There is an issue as to whether or not he can be extradited.

His codefendant, Mr. Gruschoff, was active in the preparation of his tax returns, and the books and records which were a direct impediment to the unraveling of this task, as well as from the books and records of BCCI.

Now Bank of Credit and Commerce International, S.A., and its affiliates had two branches: one in Miami on Brickel Avenue, and one in Boca Raton, FL. Mr. Bilbeisi was a direct reason why the Boca Raton branch was opened to facilitate his commercial activity with that bank. Indeed, one of his relatives, Fahkri Bilbeisi has been, and is, today—although the bank is in receivership, as we all know—the senior bank partner in BCCI, Amman, Jordan.

Mr. Bilbeisi, from the evidence that we have reviewed, has moved various funds of his three corporations—Coffee, Inc., Orion Systems, Inc., and Mura International—with the direct connivance and participation of BCCI to conceal accounts, arrange cash payments, and facilitate the smuggling of coffee and other commodities through Central America into the United States.

When our investigation began—and there should be a brief word about this—we knew nothing of Munther Bilbeisi or BCCI. Very simply, Senator Simon, Munther Bilbeisi individually obtained what is called a fine arts policy of insurance, to ensure what he represented to a particular underwriter, Richard Fielder, were a collection of antique rugs, and a Chinese vase—the appraisals, it was later determined, to be absolutely fraudulent.

He also obtained, in the name of his company Coffee, Inc., or Orion Systems, Inc., an insurance vehicle called a Marine Insurance Shipment, to facilitate the movement of coffee.

[illegible] were filed in short succession, Senator Brown, after [illegible] That date is significant because that was the date [illegible] of coffee had dropped over 200 points.

[illegible] that significant economic event, Mr. Bilbeisi [illegible] claim, claiming that his home had been bur[illegible] course of the investigation of that claim, Mr. Bil[illegible] under oath that his company, Coffee, Inc., had sus[illegible] claim and loss of some $4 million, as a result of [illegible] some $12,000 bags of coffee. And it was at that point, [illegible] to demonstrate the existence and validity of the claim, [illegible] Mr. Bilbeisi began to introduce vast, incomplete sets of records [illegible] Bank and Commerce International.

Now let me take a further minute to explain our involvement in this matter.

Lloyd's rejected—the underwriters at Lloyd's—both claims, on the grounds—briefly—of fraud, and false- swearing. The documentation supplied by Mr. Bilbeisi, particularly in the Coffee, Inc. claim demonstrated on its face that there were no bills of sale; there were no contracts of sale; all that was given were a series of cashier's checks.

I wish to stress that even though we were involved with litigation against BCCI as a nonparty witness, and Mr. Bilbeisi as a defendant, we are not here to try our case, but rather to convey information we have learned concerning the operation of Bank of Credit and Commerce; and, the U.S. Government's response to what we obtained through subpoenas from grand juries.

We do not purport to have knowledge of all of BCCI's operations in its network of 69 countries. We will limit our remarks to those transactions which involve Mr. Bilbeisi in criminal conspiracy with the bank's operations in Miami, in England, and in Amman, Jordan.

The documents produced in the litigation, since 1988, that we have obtained from the bank at different times, from Mr. Bilbeisi and his corporations at different times, and from third-party witnesses, exceed the size of a large warehouse.

We have attached to the various records that we have, a fragmentary selection of some of those records in order to demonstrate the issues of coffee smuggling and arms violations here today.

On the first topic of arms dealing, you might ask: what is the relevance of an arms dealer to contracts of insurance? Senators, that goes to the moral hazard of the applicant himself, and the obligation and utmost good faith that an applicant for insurance disclose his true activities. Mr. Bilbeisi did not do that.

We have documentation that there are at least seven, separate transactions of major arms shipments in which Munther Bilbeisi was involved, with weapons either obtained or supplied from the United States or England, which ultimately went to Jordan.

The first involved a sale of small arms to Honduras and El Salvador. During the brief, 1969 soccer war between Honduras and El Salvador, Mr. Bilbeisi sold small arms or light armaments to both El Salvador, and attempted, and did sell some of the armaments to Honduras.

The second transaction that we are aware of began in 1974. This clandestine shipment of British-made centurion tanks, surface-to-air missiles, and jet aircraft that were given by and sold by the Government of England to Jordan, resulted in a clandestine, subsequent sale when those weapons became obsolete, by Mr. Bilbeisi, and they were brokered to South Africa.

We now know that in 1974, a particular reporter, Martin Walker for the Guardian, was in Jordan and came upon this particular transaction which, historically, in the world events, was a shattering revelation, because world opinion had prohibited the sale of weapons to South Africa.

Mr. Walker, in Jordan, came across this event, publicized it. It led to an official cessation of some of the shipments, and a recognition by Jordan that those shipments had occurred.

In 1975, we now know that Mr. Bilbeisi had also participated in the sale of surplus F-86 North American Sabre Jets from Yugoslavia to Honduras.

This becomes significant, since in 1978, Mr. Bilbeisi once again, became involved in a sale of the retrofitting of the entire core of British and American made tanks, which the Jordanian Government decided to update to be on a position of equivalency with the state of Israel.

That contract resulted in a claim by Mr. Bilbeisi and his corporation—and still one other shell corporation—to seek, in the American courts, in federal court in Michigan, commissions over $7 million. All of these facts were not revealed to the underwriters at Lloyd's.

We know that during the years when insurance coverage existed, beginning in 1983, and before the filing of the false insurance claims in 1986, that Mr. Bilbeisi had a former operative of the Central Intelligence Agency, Mr. William Toten, working in his company; supposedly—and which we do not believe—for the sale of coffee. We know that in 1984 upon the retirement of Gen. James Vaught, the Three-Star Army General from the U.S. Army, that there were attempts also, by Mr. Bilbeisi to sell weapons. These proceeded, ultimately, in 1985 by further attempts by Mr. Bilbeisi to sell weapons to the Contras through Adlofo Colero.

In 1987, in the midst of the litigation that, and the investigation that had resulted from the present claim, Mr. Bilbeisi attempted to sell 10 Northrop Jet Fighters, F-5's, and 18 Sikorsky S-76 helicopter gun ships from Jordan to Guatemala with some 13,000 general purpose bombs.

Mr. Bilbeisi attempted to finance this sale of American manufactured arms without the requisite State Department and user certificates, through originally a $34 million letter of credit. This letter of credit was initially issued, but was not completed by BCCI in Amman, Jordan.

Despite the efforts of several intermediaries on Mr. Bilbeisi's behalf, including a former consul general in Miami, and several Guatemalan generals, all of whom—as of last week—are now under indictment by the Republic of Guatemala. The financing for the complete transaction fell through.

Mr. Bilbeisi set up a $5,175,000 letter of credit, naming BCCI Miami as the advising bank for three, of the quote, end of quote "civilian helicopters" which were manufactured by Sikorsky—S-76 helicopters, in the possession of King Hussein of Jordan.

Mr. Bilbeisi admitted that these obsolete, Jordanian helicopters were obtained for approximately $2 million, and were later sold to the Republic of Guatemala for some $5 million.

Discovery has revealed various facsimiles from Mr. Bilbeisi, and his intermediaries in Guatemala containing a list of various Guatemalan public and military officials, including the brother of a former president of Guatemala, Vinizio Cerezo, Milton Cerezo, to whom various kickbacks of profits from this completed transaction were directed.

The Bank of Credit and Commerce International wire transferred these funds to Bank Leumi, in Miami Beach. Included in the payoff list was the mention of some $400,000 to BCCI—and in parenthesis, (NB) which we contend, and we believe we have evidence—represented a kickback to BCCI Miami.

These assumptions are corroborated by the issuance of BCCI cashier's checks to all of the persons named in the pay off list, in the same amounts listed on the payoff list. In addition, BCCI Miami received the $400,000 assignment of proceeds from the letter of credit when the $5.1 million sale of the helicopters was completed.

In pleadings which Lloyd's has filed seeking sanctions in the southern district of Florida, we have argued that this illicit sale of the United States-manufactured arms from Jordan to Guatemala, which Mr. Bilbeisi brokered, was directly tied to our litigation. The payoffs to these Guatemalan officials were made soon after the disputed insurance claims involving coffee smuggled into the United States, and which Mr. Bilbeisi contended was mysteriously switched, for which he sought insurance coverage.

Our investigation of this insurance claim for a coffee loss centered in Guatemala, since the coffee—although claimed to be of the origin of El Salvador, in fact—was grown in Guatemala. It was purchased from Guatemalan brokers, stored in Guatemalan warehouses, and trucked from Guatemala to Port St. Thomas de Castillo. When the coffee arrived in the United States, the marks on all of the bags were changed.

The greatest resistance that we received was when we began the process of investigating whether or not there was an insurance claim that was valid when we attempted to verify the origin of the coffee in Guatemala. We determined that the bags were falsely marked; that the coffee in the subject claim, as all previous shipments was smuggled. And it was at that period of time that Mr. Bilbeisi and the bank had attempted to block this investigation by initiating and then completing a partial arms shipment.

It is a documented fact in the southern district of Florida that subsequent to the unraveling of this tale of smuggling, of political payoffs, that there were attempts by Mr. Bilbeisi's Guatemalan attorneys to bribe our attorneys in Guatemala City, which led to—with the consent of our Guatemalan attorney who was investigating and assisting us—a tape recording made by agents of the U.S. Department of Justice, the Drug Enforcement Agency. Those tapes were filed, of record.

The fallout from the completed sale of these three, overpriced and obsolete civilian helicopters, involving kickbacks to Guatemalan generals and other officials, has now resulted in widely reported, national scandal in the Republic of Guatemala and, the indictment not only of the former president of Guatemala, Vinizio Cerezo and his brothers, but other members of the military.

I would like to turn for one minute, now, to an explanation of the coffee-smuggling scheme. As we all know, coffee is one of the most significant, important commodities in world trade. Because of the existence of the International Coffee Agreement, Senator Brown, in 1982 through its termination in February 1986, there were two, international prices for coffee. The agreement coffee sells for much more than non agreement coffee. What Mr. Bilbeisi and his alter-ego companies, Coffee, Inc. and Orion Systems, Inc., during the years 1982 through 1986, was buy coffee in Central America, as nonagreement coffee, and then sell it in the United States as more expensive agreement coffee.

Senator Kerry. Well, next week we are going to have an opportunity to ask some of those questions of both people in the bank, as well as some of the lawyers.

Mr. Dougherty. I think, Senator Kerry, one of the problems that we've had has been the blocking of our investigation, as your committee, with records that have not been produced or represented to be produced, so that we could integrate this a lot sooner.

Senator Kerry. Well, there is no question that throughout this effort, you know, a lot of people have. I have two guys on the staff here, who have spent most of the last couple of years trying to get some of those records. And we understand the stonewalling.

But it is very, very hard. There has, indeed, been a sort of institutional stonewalling. Because you are running into it with the liquidators. You run into it with the court. You run into it with the bank, and with a lot of law firms.

One of the great difficulties is that obviously a law firm can say to you, oh, yes, you know, we are going to cooperate. We will give them—and they sort of anteup a few documents. And you are sitting there. And unless you have an insider or somebody who is specifically telling you what document you are looking for, or where it is, you do not know until you get further down the document trail that there may be more documents, or that it has not been fully forthcoming.

Or, that they have been shifted, cleverly and quickly, from BCCI Miami branch, to London, or to Amman, or somewhere. And I am convinced, at this moment, that there are an awful lot of documents out there that tell an extraordinary story that are sitting in foreign countries, as a consequence of the delay here in seizing and in moving, and in investigating. And you are paying some of the price of it; we are paying some of the price of it.

It is very difficult to get all of those.

Mr. Dougherty. Senator, can I make two points with you?

You, on opening statement, referred to the issue of Iraq, and arms transactions. I did wish you and Senator Brown to know that in the most recent discovery response from Mr. Bilbeisi, we have records that will be placed in the evidence—with your permission—to show that Mr. Bilbeisi attempted to sell parts for F-14 jets, American-made Grumman F-14 jets to Iran; that there are records that show that Mr. Bilbeisi, in Hollywood, Florida, during the Iran-Iraq year, Senator Brown was receiving inquiries from the first minister of Iraq to attempt to buy American-made red-eye, side-winders, other surface-to-air missiles, tanks.

We even knew—when we were investigating early—the telex traffic, to show the coffee shipments. We came across a telex that showed—an incoming telex to Mr. Bilbeisi's office in Boca Raton from South Africa, offering to sell enriched uranium to a Middle East country.

Senator Brown. Any indication as to which country?

Mr. Dougherty. In the context of the incoming telexes, it would have to be argued that it was either Iraq or Iran. That information was given to two FBI agents who looked at it before our involvement and confrontation with Iraq 2 years ago. And there didn't really seem to be any interest to take the totality of all of the pieces of a man who claims to be a coffee merchant retired who is

receiving incoming telex traffic for each coffee transaction in Central America, any interest in 20 mm cannons, armored personnel carriers, tanks—none—with a man who did have a former CIA agent working for him in the coffee business; and at different times a retired Three-Star Army General travelling with a coffee smuggler to Honduras, El Salvador, and Guatemala, during the times of the—what is called and referred to as the—Iran Contra Affair.

Senator Brown. You do not mean U.S. retired Army general?

Mr. Dougherty. I mean that a Lieutenant General of the U.S. Army—and you may not have been here—James Vaught, a distinguished, United States Flag Officer, who organized the ill-fated Iran extraction of our hostages from our embassy, when the helicopters crashed in the desert. That was his plan.

That that man, upon his retirement from the U.S. Army, who went from an NCO to a Three-Star Army General, from South Carolina, suddenly appears at Mr. Bilbeisi's residence, and attempts to go into Central America and sell Turkish or South Korean-made weapons with Mr. Bilbeisi's employees in Honduras, Guatemala, and El Salvador.

We have his sworn statement here. The following year, Mr. Bilbeisi attempts to sell—or listens to Adolfo Colero's shopping list of Soviet-made weapons.

Now, the question is, when this information is brought to the Justice Department, and there's absolutely zero interest, with a man who flagrantly violates the U.S. Code, who U.S. Customs knows is violating sections of the U.S. Code, why? And we even have, now, received a copy of a passport of the Government of El Salvador which shows Mr. Bilbeisi as a Salvadorian, that was issued by the Salvadors, by the Government of El Salvador's embassy in Geneva, arising out of his activities in selling weapons to El Salvador.

Now, what is a Jordanian in a false name using a Salvadorian passport today? How did that happen? How could that all happen, without the United States Immigration Department, the U.S. Customs, the Justice Department, the Central Intelligence Agency, the National Security Council all being unaware? It does just not happen that a distinguished United States Army officer attempts to broker weapons.

Senator Kerry. Do you have any idea how—how do you know that a CIA man or former CIA person went to work for Bilbeisi?

Mr. Dougherty. His name is William Toten. He lives in Alexandria, VA. He was subpoenaed to give testimony 1 year ago. I conferred with his attorney. We'll introduce the copy of the subpoena and the name of the attorney. And his attorney admitted that he worked for the agency, and stated—to save a lot of time—that he would not permit me to ask any questions concerning the length of his employment, what he did with the Central Intelligence Agency, or what he did with Mr. Bilbeisi selling coffee shrimp.

And Senator Brown, there is a—in a record that we received last week—a very simple document called Decoding. And it's a vertical line that lists commodities like coffee and shrimp. And you correlate it to weapons.

Now what is a coff

Regrettably, there was a problem in really getting answers to the questions that we posed thereafter. We contacted the CIA twice and were informed that the report did not exist.

Two months later, after pressing significantly, the CIA "found" the report. The report was delivered to the Senate Intelligence Committee in a classified form, on the ground that it contained "extraordinarily sensitive information."

When I received the report—and I say this as somebody who respects the notion that there is incredibly intelligence-oriented, sensitive information, and it does exist—but when I reviewed the report, just as a matter of common sense and some basic judgment, I must tell you I found nothing, in my mind, in it that could be classified as "extraordinarily sensitive," let alone anything which justified it being classified at all.

It contained the revelation that the CIA knew back in 1986 that BCCI secretly owned First American and had told Federal law enforcement of that fact. That fact has since been declassified by Mr. Webster prior to his departure at my request.

In the meantime, however, the rest of that report remains classified for reasons that I must tell you, frankly, I find very hard to understand.

Subsequent to that, my staff, who were cleared at top secret level, requested a briefing of what the CIA knew about BCCI, and we were provided with briefers who were totally unfamiliar with the basic facts about the bank, including even the identity of a former head of Saudi intelligence, Mr. Kamal Adham, who was a central player in BCCI, whose name we've heard many times in the course of these hearings.

In early August, on the very day that Congress was leaving for recess, after all of our inquiries, Mr. Kerr, who is here today, appeared in public to give a speech to a group of students at the National Press Club, and, indeed, they were able to learn what we were not, which was that the CIA, itself, it made use of BCCI.

There were no questions permitted at the time. But I must say that it struck me as ironic that a group of students at the Press Club were learning, formally from the Acting Director, of this fact while a Senate subcommittee had been pressing to get some information on it for a fair amount of time.

Added to these facts is the fact that Mr. Kamal Adham, the lead shareholder in First American, apparently had a lengthy relationship with the intelligence community, and at least one other shareholder in the original takeover of Financial General Bankshares was a business partner of the former CIA Director and Ambassador to Iran, Richard Helms.

Beyond this, we have statements by the Finance Minister of Pakistan, Mr. Sartaj Aziz, who told the London "Financial Times" on July 25, 1991, that it was his understanding that the CIA made use of BCCI in his country to provide rewards to the Afghan rebels and Pakistani military officers coordinating that movement.

This past week, we have received additional testimony from an officer within BCCI who, in his sworn testimony, stated that the former head of BCCI, Mr. Agha Hasan Abedi, believed he had been targeted by the CIA. That is not a new belief by many people in many countries. But additionally, it was felt by some of the officers working with him that there had been some sort of relationship that had been created.

Mr. Sakhia, one of the top officers of the bank in this country, also testified that he was contacted by the FBI for help in unraveling the involvement of BCCI in arms sales to Iran as part of the Iran-Contra Affair.

There are documents which we have obtained independently from BCCI that confirm a participation in planned arms deals in 1985 and 1986. While some of these deals may have been aborted, in the end, they do appear to have been negotiated with important Iran-Contra figures, like Adnan Khashoggi and Manusher Ghorbanifar, who is the arms merchant used by Oliver North and the NSC for negotiations with Iranian "moderates."

Yesterday, we learned for the first time from Mr. Altman that his bank, in fact, was a depository of the CIA, despite the fact that the CIA knew that First American was secretly owned by BCCI.

These are the connections that obviously raise questions.

Now, again, I want to reiterate—and I say this adamantly—I am not in any sense of the word an opponent of the CIA's need to have bank accounts and to maintain secrecy. This committee respects that concept, the chairman respects that concept, and I understand that there will be a need to have some testimony in private session. We will do so.

Similar questions arise with respect to the State Department. There were many signals in many different countries with respect to the "culture of criminality," as it has been referred to by the Bank of England, though the Bank of England, obviously, didn't respond to that any too soon, either. The question is whether or not in the course of State Department efforts and so forth there was some knowledge of the bank's criminality and some failure to act.

There is a propensity up here in the U.S. Congress to look at things after the fact, and it's all clear as a bell, and people make a lot of judgments about things that I am not sure any of us would have made or could have made at a particular time, without the retrospective made available.

So, this is fact finding and not finger pointing. I hope all of you will help us to understand exactly what took place here so that we can try to make some judgments down the road.

I welcome all of you here and look forward to your testimony. I understand you will have some opening statements, and after that, we can proceed with the questioning.

Why don't we lead off, Mr. Kerr, with you, if we can. Then, after your opening, I'd like to get the openings from the State Department. Then we will come back.

Does that empty chair represent the gulf between the CIA and the State Department?

Mr. KERR. No, I think it's an accident.

Senator KERRY. It's an accident, like most. All right.

Mr. KERR. Quite simply, I didn't know that we were going to have quite this array here this morning.

Senator KERRY. Well, actually, I didn't, either. But we welcome you. Thank you.

[COURT REPORTER'S NOTE: Due to an inadvertent oversight, today's witnesses, Mr. Kerr, Mr. Kreczko, Mr. Pope, and Mr. Smith

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P.O. Box 23223
Tampa, Florida 33623
April 3, 1991

Commissioner Carol Hallett
U.S. Customs Service
1301 Constitution Avenue NW
Washington D.C., 20229

Dear Mrs. Hallett,

With very mixed emotions, I'm writing you this letter to inform you that I have applied for a position with the Drug Enforcement Administration and have informally been advised of my imminent appointment. Although I am excited about embarking on a new career with the DEA, I regret that the conditions that caused me to consider options to my career with Customs still exist. As I prepare to leave the world of U.S. Customs, I hope that in some small way my leaving the service will give you and many others the strength to confront the inadequacies and injustices that have led me, and is leading other respected agents, to leave the U.S. Customs Service in North Florida. Due to the nature of the problems in Tampa, I and others feel the severity of Tampa's problems will not be recognized unless we sacrifice our careers with Customs.

I am not a disgruntled agent. I have received outstanding evaluations throughout my ninteen (19) year career as a Special Agent. I've received innumerable awards, and I have twice been recognized with national awards from the Association of Federal Investigators. I don't refer to my record for any reason other than to attempt to establish a basis from which an impartial judge of facts can weigh my credibility.

There are several key personnel within and outside of Customs who are not influenced by the "networking" and manipulation in Tampa, and I encourage you to explore these matters with individuals like U.S. Customs [redacted] and Assistant U.S. Attorney Mark Jackowski. [redacted] was the Group Supervisor of the C-Chase group for [redacted]. His superior professionalism and management skills are the major reason for our successful trial preparation concerning the C-Chase defendants. Mr. Jackowski was the Assistant U.S. Attorney that successfully guided C-Chase through it's covert, pre-trial and trial stages over a four (4) year period.

I know that my formally advising you of the deplorable conditions in Tampa could cause some individuals in my new professional circle to question my loyalty, but it is simply out of my love for this country and our critical need for ethical government that I think its appropriate to respond to John Hensley's request for my candor.

I have nothing but the greatest respect for the mission of the U.S. Customs Service, and I am especially proud to have served in "the war on drugs" with many fine men and women within Customs. The achievements that we have made in Tampa over the past three years have been made despite the repeated undermining of our work by certain [redacted] personnel who are well known within the Customs Service to have allowed their actions to be corrupted by a number of factors, including:

[redacted]

Unfortunately, the debilitating condition in Tampa has grown to unmanagable proportions and now threatens the ethics, morality and legality of the Customs Service in North Florida. Morale and meaningful productivity in the office is at an all time low, inter-agency relationships are shaken by mistrust, and the reputation Customs once had as a premier federal agency has been destroyed.

When the covert operation called C-Chase was two-thirds completed and [redacted] transformed the motives of management decisions from a healthy mentality guided by the interests of the government to a dysfunctional leadership guided predominantly by personal agendas. If it hadn't been for the nearly two years of achievement prior to March 1988, the ultimate outcome would also have been lost. The outcome of the case, while notable, was considerably less than what it could have been. The indictment of additional defendants and the seizure of substantially more drug proceeds was lost, directly as a result of the application of inadequate resources by [redacted] to the investigation. This opinion is shared by individuals meaningfully involved in the successes preserved within Operation C-Chase, including the lead prosecutor (See Attachment A, Memo of AUSA Jackowski, page 4).

The gross inadequacies realized via the overt investigative process within Operation C-Chase was forecast, in writing, to [redacted] frequently over the past three years by individuals, including myself. The efforts by me and others to professionally express concerns about Operation C-Chase, via the chain of command, were unfortunately misinterpreted by [redacted] as a personal affront that became so personalized that it precipitated nothing but vindictive and improper attacks against us and the case. Under [redacted] direction, the C-Chase agents have suffered through:

- the assignment of critical matters to unqualified

agents for personal reasons, thus undermining easily attainable major goals,
- no secretary for two years,
- the drastic understaffing of senior agents truly experienced in financial investigations, and
- the repeated shuffling of different supervisors and acting supervisors, thus impeding consistency.

With respect to myself, [redacted] has:

1) improperly threatened [redacted] me on three separate occasions, simply because my good faith and appropriate actions conflicted with [redacted] personal career goals.
2) attempted to coerce management personnel to improperly and unfairly execute my employee evaluation.
3) attempted to illegally breach the doctor-patient relationship between a doctor and me, as well as the relationship between this same doctor and my wife.
4) improperly prevented my supervisor from submitting me for a financial award.
5) lied to Customs personnel and a foreign official in an effort to prevent me from representing U.S. Customs at an international seminar.
6) made false and derogatory statements to Customs employees and foreign law enforcement authorities relative to my mental health, despite having specific information to the contrary from a qualified professional.
7) denied me the resources and privledges normally extended to S/A's, thus impeding my ability to perform my duties proficiently.

[redacted] has taken similar improper punitive actions against other employees. I have been informed by my co-workers that [redacted] actions have included:
- abusing [redacted] power by causing an employee to be audited by the IRS for unjustified reasons.
- unfairly pursuing actions concerning alleged misconduct.

[redacted]

For the sake of my Customs colleagues, I wish the unwarranted actions inflicted upon the C-Chase investigation were atypical, but they are not. Unfortunately my experiences in Tampa are customary. In good conscience, I can't disserve the public by developing another BCCI type case within such a dysfunctional [redacted] leadership.

Recently on "60 Minutes", U.S. Senator John Kerry

# APPENDIX D.

## FY 1994 SEMI ANNUAL REPORT

This is the Second 1994 Semi-Annual report issued on nonproliferation in Russia. Its focus is upon the destruction of nuclear weapons in Russia and the NIS. It is used here to show the minimal effects this program has and its short-sighted nature.

# SECOND

# FY 1994 SEMI-ANNUAL REPORT

# ON

# PROGRAM ACTIVITIES

# TO FACILITATE WEAPONS DESTRUCTION AND

# NONPROLIFERATION

# IN THE FORMER SOVIET UNION

OCTOBER 30, 1994

# SECOND
# FY 1994 SEMI-ANNUAL REPORT

Submitted in accordance with Section 1207 of the "National Defense Authorization Act of FY 1994," P.L. 103-160 and the "Department of Defense Appropriations Act of FY 1994," P.L. 103-139.

October 30, 1994

## INTRODUCTION

This Second FY 1994 Semi-Annual report provides details on the implementation of Cooperative Threat Reduction (CTR) program activities to facilitate weapons destruction and nonproliferation in the former Soviet Union. The report is submitted in accordance with Section 1207 of the "National Defense Authorization Act of FY 1994,", P.L. 103-160, and the "Department of Defense Appropriations Act of FY 1994," P.L. 103-139. Commonly referred to as the "Nunn-Lugar" program, the report addresses the activities initially established under Section 108 of the "Dire Emergency Supplemental Appropriations and Transfers for Relief From the Effects of Natural Disasters, for Other Urgent Needs, and for Incremental Cost of 'Operation Desert Shield/Desert Storm' Act of FY 1992," P.L. 102-229, as amended, and Section 9110 (a) of the "Department of Defense Appropriations Act for FY 1993," P.L. 102-396.

This report covers the Cooperative Threat Reduction (CTR) program activities for the period of April 1, 1994 to September 30, 1994 and cumulatively. The number of CTR projects has not increased significantly over the period, thus, the focus of this report is on the activities undertaken to implement existing CTR projects.

CTR program activities include Department of Defense assistance to former Soviet republics to: 1) destroy nuclear, chemical and other weapons of mass destruction; 2) transport, store, disable and safeguard weapons in connection with their destruction; and 3) establish verifiable safeguards against the proliferation of such weapons. In addition, since initially established, Congress has refined and expanded the types of activities authorized to include conversion of weapons production and military capabilities into civilian activities, and defense and military contact activities.

COOPERATIVE THREAT REDUCTION PROGRAM
SEMI-ANNUAL REPORT SUMMARY
(April 1, 1994 - September 30, 1994)
ON THE PROGRAM ESTABLISHED UNDER P.L. 102-229 SECTION 108
(By Project)
($ in Millions)

**PROJECT: EMERGENCY RESPONSE TRAINING/EQUIPMENT (BELARUS)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | 1.257 | 1.236 |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | 2.977 | 2.456 |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | .766 | .601 |
| TOTALS | | 5.0 | 5.000 | 4.293 |

PROJECT DESCRIPTION: The Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of the Republic of Belarus Concerning the Provision of Emergency Response Equipment and Related Training in Connection with the Removal of Nuclear Weapons and Nuclear Weapons Delivery Systems was signed on October 22, 1992. Assistance, up to $5 million, provided under this agreement will facilitate the expansion of emergency response capabilities in connection with the removal of nuclear weapons and nuclear weapons delivery systems from the Republic of Belarus for destruction, and their related temporary location on the territory of the Republic of Belarus pending their final removal.

A technical exchange occurred in Minsk in early January 1993 and resulted in an agreed upon list of equipment to be provided. To date, 400 protective suits, 4 Violinist III plutonium detectors and calibration sources, ten air monitors, 100 dosimeters, and two portable computer network systems have been delivered and training has been completed. A training review on four high purity germanium spectrometers and atmospheric dispersal models occurred during March 1994 in the United States. Delivery and training on the high purity germanium spectrometers occurred in May 1994. The final item to be delivered, the mobile radiation counting laboratory, is in the final stages of assembly. Plans are underway for training to occur during November 1994 with shipment and delivery shortly thereafter.

# COOPERATIVE THREAT REDUCTION PROGRAM
SEMI-ANNUAL REPORT SUMMARY
(April 1, 1994 - September 30, 1994)
ON THE PROGRAM ESTABLISHED UNDER P.L. 102-229 SECTION 108
(By Project)
($ in Millions)

**PROJECT: EXPORT CONTROL (BELARUS)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | .296 | .296 |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | .057 | .057 |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 1.580 | 1.251 |
| TOTALS | | 16.26 | 1.933 | 1.604 |

**PROJECT DESCRIPTION**: The Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of the Republic of Belarus Concerning the Provision of Assistance Related to the Establishment of Export Control Systems to Prevent the Proliferation of Weapons of Mass Destruction from the Republic of Belarus was signed on October 22, 1992. Pursuant to this agreement the Department of Defense is to provide up to $2.26 million in assistance in the development of Belarusian export control institutions and infrastructure to prevent the proliferation of weapons of mass destruction. The Agreement was amended April 29 and July 22, 1993, increasing the level of assistance to a total of up to $16.26 million. Assistance will encompass four areas of activity: policy consultations and project development; export control technical interaction; training and technical assistance; and equipment. Funds to date have been obligated for project development, technical exchanges, training, and assessment of equipment needs. Major procurement actions pending funding include a licensing automation system, nuclear material detection equipment, a customs automation system, customs enforcement equipment, frontier forces interdiction equipment, automation of two classrooms of the Belarus government export control center, non-governmental, non-proliferation center support for the training center, and stationing of two US Customs Service Advisors in Belarus.

COOPERATIVE THREAT REDUCTION PROGRAM
SEMI-ANNUAL REPORT SUMMARY
(April 1, 1994 - September 30, 1994)
ON THE PROGRAM ESTABLISHED UNDER P.L. 102-229 SECTION 108
(By Project)
($ in Millions)

PROJECT: **CONTINUOUS COMMUNICATIONS LINK (BELARUS)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92 | | | |
| | FY93 | | .271 | .271 |
| Research, Development, Test, & Evaluation | FY92 | | | |
| | FY93 | | | |
| Procurement | FY92 | | | |
| | FY93 | | .025 | .022 |
| Military Construction | FY92 | | | |
| | FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 1.870 | .399 |
| TOTALS | | 2.30 | 2.166 | .692 |

PROJECT DESCRIPTION: On January 15, 1993 the United States Department of Defense and the Ministry of Defense of the Republic of Belarus signed an agreement concerning the provision of material and services for the establishment of a Continuous Communication Link. This implementing agreement provides for assistance to Belarus in the establishment of a continuous communications link between the United States and the Republic of Belarus that will be used to transmit notifications required by the Treaty on the Reduction and Limitation of Strategic Offensive Arms (START) and the Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles (INF). Technical experts met in April 1993 and agreed on technical details and a work program. Equipment was delivered to Belarus in July 1993 and operational and maintenance personnel received training at the same time. An interim system became operational on August 31, 1993. A delegation from Belarus visited the U.S. in July 1994 to see a demonstration of the new equipment. This configuration has been approved. The new equipment will be shipped, installed, tested and finally operational in late 1995. Costs of material, training, services and associated expenses, including costs related to the transportation of materials and personnel, will not exceed $2.3 million.

COOPERATIVE THREAT REDUCTION PROGRAM
SEMI-ANNUAL REPORT SUMMARY
(April 1, 1994 - September 30, 1994)
ON THE PROGRAM ESTABLISHED UNDER P.L. 102-396
(By Project)
($ in Millions)

**PROJECT: SITE RESTORATION (PROJECT PEACE)**
**BELARUS**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92 | | | |
| | FY93 | | 5.000 | |
| Research, Development, Test, & Evaluation | FY92 | | | |
| | FY93 | | | |
| Procurement | FY92 | | | |
| | FY93 | | 6.000 | 6.000 |
| Military Construction | FY92 | | | |
| | FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | | |
| TOTALS | | 25.0 | 11.000 | 6.000 |

**PROJECT DESCRIPTION**: On July 22, 1993, the Agreement between the Department of Defense of the United States of America and the Ministry of Defense of the Republic of Belarus Concerning the Environmental Restoration of Former Strategic Rocket Forces facilities and Sites to Promote the Prevention of Proliferation of Weapons of Mass Destruction was signed. Pursuant to this agreement, the Department of Defense may provide up to $25 million in assistance, including material, training, and services, to facilitate the environmental restoration of former Strategic Rocket Forces (SRF) facilities and sites in the Republic of Belarus. The objective is to provide the equipment and training necessary to transfer to the Belarusians the expertise to perform environmental restoration of SRF facilities or sites. In order to effect this skills transfer program, the Department of Defense will assist in the performance of studies and designs related to environmental restoration at two former SRF bases, Postavy and Lida. Technical experts held discussions in August 1993 and in March 1994 and agreed on the equipment to be provided and a defined plan of work to be accomplished.

The project has been divided into three elements for implementation: (1) an analytical chemistry laboratory, (2) remote sensing and geographic information systems (RS/GIS), and (3) remediation planning, technical assistance and training. The contract to provide analytical chemistry equipment and training, and prepare the analytical chemistry laboratory, was awarded to Environmental Chemical Corporation (ECC) of Burlingame, CA, on 22 September 1994. Planning calls for an operational laboratory in Belarus by the end of January 1995. The Cold Regions Research and Engineering Laboratory (CRREL) is the performer for RS/GIS and has provided initial orientation to Belarus officials at Hanover, NH, and Anchorage, AK where the officials observed and received detailed briefings on the equipment and training that would be provided. CRREL has also initiated action to purchase the required RS/GIS equipment and has developed associated training plans and schedules. In addition, the Air Force Sensor Evaluation Center (AFSEC) conducted measurements of the environmental characteristics of the Belarus supplied aircraft (AN-26) that will be the platform for the aerial camera and the digital multispectral scanning video (DMSV) system to be provided under this agreement. DNA released on 26 August 1994, an RFP to provide for the remedial planning, technical assistance, and training described above, and to integrate all the elements into a cohesive remediation plan. An initial, scoping site assessment was made of the Postavy SRF base 23 May - 3 June 1994 with the assistance of the US Army Environmental Hygiene Agency (AEHA); the results of this assessment indicated no radiological contamination and the major chemical contamination is in the form of spilled/leaked heating fuel oil at four locations. An In-Process Review (IPR) was held on 22-26 August 1994 at CRREL (Hanover, NH) and the Washington, DC area for three invited Belarus officials. During the IPR the Belarus officials confirmed that the Belarus government considers the environmental restoration project one their top priorities and confirmed their concurrence with the implementation plans presented by the U.S.

Under element (3), a second, detailed site assessment of Postavy is scheduled for November 1994, to determine the precise extent of the heating fuel oil contamination, assess the heavy metals contamination problem, and determine if hazardous materials resulting from liquid rocket fuel operations are present. A major goal for this activity is to meet a critical milestone of 1 April 1995 when weather conditions should be suitable to implement the remediation plan that is to be developed by the performer. The US will lead the remediation activities at Postavy with Belarus providing the required labor support and the Belarus experts will lead remediation activities at a second SRF base (probably Lida) with the US providing consultative technical assistance as required.

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**PROJECT: STRATEGIC OFFENSIVE ARMS ELIMINATION (PROPELLANT ELIMINATION (BELARUS)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | | |
| TOTALS | | 6.0 | | |

**PROJECT DESCRIPTION:** Congress has been notified of the Department of Defense's intent to provide Belarus up to $6 million in equipment and technical assistance to eliminate SS-25 fixed structures in accordance with START I elimination procedures. As yet,there is no implementing agreement in place. Discussions continue to further define this project.

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**PROJECT: DEFENSE CONVERSION/ INDUSTRIAL PARTNERSHIP (BELARUS)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92 | | | |
| | FY93 | | | |
| Research, Development, Test, & Evaluation | FY92 | | | |
| | FY93 | | | |
| Procurement | FY92 | | | |
| | FY93 | | | |
| Military Construction | FY92 | | | |
| | FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 10.000 | 9.880 |
| TOTALS | | 20.0* | 10.000 | 9.880 |

**PROJECT DESCRIPTION:** The Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of the Republic of Belarus Concerning the Conversion of Military Technologies and Capabilities Into Civilian Activities of July 22, 1993 provides for up to $20 million of demilitarization related defense conversion assistance. Up to $10 million will be used for industry conversion, and up to $10 million will be used to construct housing necessary to facilitate the demobilization of Strategic Rocket Forces officers. Technical teams visited Belarus in September 1993 to discuss industry conversion candidates and housing requirements. Following this, the Department of Defense responded that it would begin procurement actions to provide materials, training and services to three candidate industries: Belomo Optical (which formerly made optics for satellites, gun sights, night vision and missile defense systems), Minsk Computer (which made computers for the military), and Integral Electronics (which made nuclear hardened chips for every element of the former Soviet command and control system). In addition, the United States will provide equipment for the officer retraining facilities at former Strategic Rocket Forces bases in Belarus. The junior officers being demobilized from the Strategic Rocket Forces will take a nine month course on business and trade so they can seek employment after being demobilized. The US Government will provide computer equipment for business education, an automotive repair training center, English language training and wood working equipment.

The first training center equipment (computers and business equipment) was delivered to Lida on December 22, 1993. The auto repair retraining center was delivered to Minsk on 3 July 1994. Subsequent deliveries are expected in October and November 1994.

The first two industry awards were announced on March 23, 1994 involving Kras Corporation of Fairless Hills, PA (to work with Integral) and Byelocorp Scientific Incorporated (to work with Belomo) of New York City. Kras won a $5.75M award, while BSI won a $0.96M award. All the proposals included cost sharing by the American Company, whereby they proposed to absorb some of the costs of the venture. The last industry award was announced on September 13, 1994 to Federal Systems Group (to work with Minsk Computer) of Falls Church, VA. FSG's award was $2.45M.

Kras proposed to retool and technically assist Integral so it could compete in the low end integrated circuit field now dominated by Asian companies. Kras would retool a plant formerly used for defense work into a facility used only for commercial application. Several hundred former defense workers would then be redirected by Integral towards commercial work. Kras provided a market analysis showing a potential four to one return on investment. In September, 1994 Kras and Integral formed a joint venture called INTEKRAS, and are attracting both customers and investors that will prove their market analysis correct. Kras was funded for the first stage of retooling and technical advice, and agreed to make any follow-on funding contingent on their ability to deliver long term orders from a third party to Integral; coupled with a USG/GoB agreement on this course of action and the availability of USG funds.

Byelocorp Scientific Incorporated (BSI) of New York formed a joint venture with Belomo Optical, called IDIX. They will manufacture and sell laser pointer devices for briefing and audio visual use. These devices are currently made in Latin America and Asia. This would involve about 200 Belomo people formally involved in defense work at a converted defense plant. The USG negotiated an unfunded option for high end optics work (including money for retooling defense equipment). Funding is contingent on performance, the availability of funds, and joint US/Belarus Government agreement.

Federal Systems Group (FSG) of Falls Church, VA assembled a team of companies that will create three micro-industries within Minsk Computer Amalgamation (MCA). FSG will form a joint venture with MCA. The other companies involved are a joint venture between the Russian firm ELVIS+ and Sun Microsystems, James Electronic, and Roy International. ELVIS+ and Sun will form two micro-industries. FSG/MCA will be licensed to manufacture radio controlled modems for the ELVIS+ and Sun venture, with Sun purchasing the first order. The modems will be sold to other vendors around the world. In addition, FSG/MCA will manufacture small antennas for the modems and other electronic use. Once again Sun will purchase the first order. Under license to James, FSG/MCA will manufacture automobile battery chargers. FSG/MCA will also be free to retail them to others. Roy International will redesign the MCA facilities from defense application to the new micro-industries. All three micro-industries are traditionally located outside the United States.

Belarus needs housing for 802 demobilized officers (by Byelorussian law the government must provide housing upon their retirement). The U.S. will construct as many units as possible for $10 million, although a figure between 150 and 200 is likely. The Byelorussians are providing site survey and cost information, infrastructure and utility hook-ups up to the site, as well as all local construction documents and other technical support. The United States, with Belarus assistance, developed a design in early March for the building site. This design was issued for bid in a procurement action in August 1994. This project was to be funded from funds in the FY93 Reprogramming request. Award is expected in December (subject to availability of funds), with completion of the project by summer of 1996.

*On September 6, 1994, $10 million initially proposed to be obligated and notified to Congress for this project was renotified to support the Research and Development Foundation to be established in Russia.

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**PROJECT: EMERGENCY RESPONSE EQUIPMENT AND TRAINING**
**(UKRAINE)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92 | | | |
| | FY93 | | | |
| Research, Development, Test, & Evaluation | FY92 | | | |
| | FY93 | | | |
| Procurement | FY92 | | | |
| | FY93 | | | |
| Military Construction | FY92 | | | |
| | FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 5.000 | 2.002 |
| TOTALS | | 5.0 | 5.000 | 2.002 |

**PROJECT DESCRIPTION**: The Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of Ukraine Concerning the Provision to Ukraine of Emergency Response Equipment and Related Training in Connection with the Removal of Nuclear Warheads from Ukraine for Destruction in the Course of the Elimination of Strategic Nuclear Arms was signed on December 18, 1993. Assistance provided under this agreement will facilitate the expansion of emergency response capabilities in connection with the removal of nuclear warheads from Ukraine for destruction and the elimination of ICBM's and their silo launchers. Total costs as notified are not to exceed $5 million. A technical exchange was conducted in the United States in August 1994. An emergency response package was jointly agreed to by the experts of both countries. Procurement action was initiated in September 1994. Equipment deliveries should be complete by June 1995.

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**PROJECT: EXPORT CONTROL (UKRAINE)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 7.260 | 2.543 |
| TOTALS | | 7.26 | 7.260 | 2.543 |

PROJECT DESCRIPTION: The Agreement Between the Department of Defense of the United States of America and the Expert and Technical Committee of the Cabinet of Ministries of Ukraine Concerning the Provision of Assistance to Ukraine Related to the Establishment of an Export Control System to Prevent the Proliferation of Weapons of Mass Destruction from Ukraine was signed on December 5, 1993. Pursuant to this agreement, the Department of Defense is to provide up to $2.26 million in assistance to Ukraine in the development of Ukraine's export control institutions and infrastructure. This agreement was amended March 21, 1994 adding up to $5 million for additional assistance. This program of assistance will encompass four areas of activity: policy consultations and project development; export control technical interaction; training and technical assistance; and equipment. The goal is to enable Ukraine to effectively control the export of materials and technology and, thereby, contribute to international efforts to halt the proliferation of weapons of mass destruction. The first technical working group meeting was conducted in April 1994 and the program plan identifying requirements was completed. An export licensing automation system and a customs automation system are being procured.

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($ in Millions)

**PROJECT: MATERIAL CONTROL AND ACCOUNTABILITY (UKRAINE)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 12.500 | 1.960 |
| TOTALS | | 12.5 | 12.500 | 1.960 |

PROJECT DESCRIPTION: The Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of Ukraine Concerning the Control, Accounting and Physical Protection of Nuclear Material to Promote the Prevention of Proliferation of Nuclear Weapons from Ukraine was signed December 18, 1993 and amended on March 21, 1994. Pursuant to this agreement, the Department of Defense may provide up to $12.5 million in assistance to Ukraine for the development of systems to provide for control, accounting and physical protection of nuclear materials in order to promote the prevention of nuclear weapons proliferation. On August 29 - September 1, 1994, representatives of the US and Ukraine met in Youzhnukrainsk to discuss specific plans for implementing the agreement. U.S./Ukrainian joint technical working group meetings and site surveys of nuclear facilities have been completed and the final reports are being completed now. The U.S. Department of Energy and Nuclear Regulatory Commission are under contract to conduct studies, develop regulations and safeguard procedures, and build a viable nuclear security program in Ukraine. The US side will render assistance by delivering: by 15 December, 1994, a report summarizing the results of the US side's analysis of the site survey data; computer hardware and software to support the development of an automated, near real-time nuclear material database; representative, IAEA-acceptable, tamper-indicating devices and procedures for controlling, accounting for, applying and removing them; equipment necessary to measure fissile mass and enrichment of fresh fuel; equipment and training necessary to characterize for safeguards purposes non-fuel nuclear material items to identify and quantify nuclides.

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($ in Millions)

## PROJECT: GOVERNMENT-TO-GOVERNMENT COMMUNICATIONS LINK (UKRAINE)

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92 | | | |
| | FY93 | | | |
| Research, Development, Test, & Evaluation | FY92 | | | |
| | FY93 | | | |
| Procurement | FY92 | | | |
| | FY93 | | | |
| Military Construction | FY92 | | | |
| | FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 2.400 | .282 |
| TOTALS | | 2.4 | 2.400 | .282 |

PROJECT DESCRIPTION: On December 18, 1993, the Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of Ukraine Concerning the Provision of Assistance Related to the Establishment of a Government-to-Government Communications Link was signed. Pursuant to this agreement, the Department of Defense will provide assistance to Ukraine in the establishment of a government-to-government communications link that will be used to transmit notifications required by the Treaty on the Reduction and the Limitation of Strategic Offensive Arms (START) and the Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles (INF). The Department of Defense will provide specified equipment along with related technical manuals and training. Costs of material, training, and services and associated expenses, including costs related to the transportation of material and personnel to and from Ukraine, will not exceed $2.4 million. A Technical Experts Meeting was held in Kiev in August 1994 to discuss details of implementing the agreement. Cutover of the interim configuration should occur by January 1995 to send and receive messages. A delegation from Kiev will visit the U.S. in early 1995 to see a demonstration of the new equipment (both hardware and software). The interim equipment will be replaced with new equipment to be shipped, installed, tested and finally operational by late 1995.

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**PROJECT: STRATEGIC NUCLEAR ARMS ELIMINATION (UKRAINE)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92 | | | |
| | FY93 | | 58.217 | 47.108 |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 50.000 | 27.926 |
| TOTALS | | 185.0 | 108.217 | 75.034 |

**PROJECT DESCRIPTION:** An Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of Ukraine Concerning the Provision of Material, Services and Related Training to Ukraine in Connection with the Elimination of Strategic Nuclear Arms was signed December 5, 1993. Amendments 1 and 2 to Annex C thereto were signed December 18, 1993; and an Amendment to this agreement was signed on March 21, 1994. Pursuant to this agreement, the Department of Defense will provide up to a total of $185 million in assistance to the Government of Ukraine to facilitate the dismantlement of their Strategic Nuclear Arms (SNA) under the terms of the Start Treaty. Assistance is also being provided to assist Ukraine to deactivate SS-19 and SS-24 missiles located on its territory in accordance with the Trilateral Accord. Funding supports procurement of a wide variety of heavy industrial equipment, such as cranes, excavators, and graders, emergency support equipment, intermodal containers to transport oxidizer and support and equipment for an ICBM Neutralization Facility. Also, funds will support design of the neutralization facility and an integrating contractor responsible for bringing the facility on-line. As of 30 September 1994, 24 out of 30 large procurements and all small industrial equipment procurements had been awarded. Three large cranes, 6 off-road capable vehicles, radio communication and emergency support equipment, and some small industrial tools were delivered to Ukraine between March and May 1994, in addition to fuel for early SS-24 dismantlement. Other equipment will be shipped in appropriate groupings to the dismantlement locations on a mutually agreed schedule. Most of the equipment will be in place by early summer 1995. The U.S. will also provide the Ukrainians with three years of maintenance materials and initial training related to the operation of equipment provided.

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**PROJECT: SCIENCE AND TECHNOLOGY CENTER (UKRAINE)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 10.000 | .016 |
| TOTALS | | 10.0 | 10.000 | .016 |

PROJECT DESCRIPTION: The US, Canada, Sweden, and Ukraine signed an agreement to establish a Science and Technology Center in Ukraine (STCU) on October 25, 1993. The STCU will be headquartered in Kiev, with the possibility of branch offices in other locations. The STCU is supported by $10 million from the United States, $2 million from Canada, and $1.5 million from Sweden. The major objective of this multi-national effort is to develop, approve, finance, and monitor science and technology projects for peaceful purposes, which are to be carried out primarily at institutions in Ukraine. These projects will provide weapons scientists and engineers, particularly those who possess knowledge and skills related to weapons of mass destruction and missile delivery systems, opportunities to redirect these talents to peaceful activities. The overall goals are to prevent the proliferation of technologies related to these military capabilities, to minimize the migration of personnel involved in these activities to potential proliferent nations, and to assist in the transition to a market-based economy.

The program is being executed by the State Department using the experience gained through the International Science and Technology Center (ISTC) in Moscow. The Ukrainian government named the National Space Agency of Ukraine (NSAU) as the implementing organization in Ukraine. The Ukrainian Government also formed an interagency advisory board to work with the NSAU. Entry into Force came on 16 July 1994. High-level meetings to establish the overall framework for the organization were held in Kiev at the end of August 1994, and working group meetings are on-going during September and October. The STCU Executive Director, a Canadian national, has been chosen, and is serving as Executive Director - designate, pending approval of his appointment by the governing board. The U.S., Sweden, and Ukraine are in the process of selecting their deputy executive director candidates.

State and DoD representatives continue to urge other contributors to join the STCU and provide a broader multilateral base for the program. Most recently, based on their experience with ISTC, the Japanese have expressed an interest in joining the STCU.

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**PROJECT: MULTILATERAL NUCLEAR SAFETY INITIATIVE (UKRAINE)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92 | | | |
| | FY93 | | | |
| Research, Development, Test, & Evaluation | FY92 | | | |
| | FY93 | | | |
| Procurement | FY92 | | | |
| | FY93 | | | |
| Military Construction | FY92 | | | |
| | FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | | |
| TOTALS | | 11.0 | | |

**PROJECT DESCRIPTION**: On October 23, 1993, the Agreement Between the United States of America and the Government of Ukraine Concerning Operational Safety Enhancements, Risk Reduction Measures and Nuclear Safety Regulation for Civilian Nuclear Facilities in Ukraine was signed. The US will provide the Republic of Ukraine a nuclear reactor simulator for the training center at the Kmelnitsky Nuclear Power Plant in Ukraine. The simulator will be used to train nuclear power plant operators, engineers, inspectors, and other regulatory personnel. The primary goal of this project is to improve reactor operator training and thereby, the safety of nuclear power reactors in Ukraine. The simulator contract will be awarded as soon as funds included in the DoD FY 93 reprogramming request are available. Planned delivery of the simulator is currently for November 1996.

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**PROJECT: DEFENSE CONVERSION/ INDUSTRIAL PARTNERSHIP (UKRAINE)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 40.000 | 34.981 |
| TOTALS | | 40.0 | 40.000 | 34.981 |

PROJECT DESCRIPTION: On March 21, 1994, an Agreement Between the Department of Defense of the United States of America and the Ministry of Machine-Building, Military-Industrial Complex and Conversion of Ukraine Concerning the Conversion of Enterprises of the Military-Industrial Complex was signed for up to $40 million in defense conversion assistance. These funds are to be used for two types of projects. Up to $20 million is planned to support joint business initiatives between Western industries and Ukrainian defense firms converting to production of civilian goods; and up to the remaining $20 million will be used to fund a specialized effort to convert several Ukrainian defense companies to the production of prefabricated housing for former military officers.

A $5M award was announced on May 9, 1994 to Westinghouse of Pittsburgh, PA to create a joint venture with the Ukrainian defense firm Hartron (which made space and ballistic missile guidance systems). The new venture WESTRON, would make instruments and controls for various equipment. The first market is for Ukrainian nuclear power plants. The instruments would improve the safety and reliability of the equipment, reducing the risk of a nuclear reactor mishap. Westinghouse provided their own cost sharing contribution.

A $9.98M award was announced on June 14, 1994 to Bill Harbert International Company (BHIC) of Birmingham, Alabama. BHIC formed a venture with Fregate of Pervomayask, Ukraine to manufacture modular homes. Fregate formerly made machinery and equipment for Navy ships. The first production run of the new homes will go to demobilized Strategic Rocket Forces personnel in Pervomayask. The Ministry of Defense will provide the site and infrastructure, while BHIC/Fregate will provide 250 units with foundations. Factory conversion is underway, and ground clearing begins this Fall. BHIC provided their own cost sharing contribution.

A $16.1M award was announced on September 26, 1994 to a joint venture between the American firms ABB SUSA of Monmouth Junction, NJ and American Services International, and the Ministry of Defense firms Montazhnik "K" and the Central Design Institute. Both Ukrainian firms were formerly involved in the design and construction of ballistic missile silos and other command and control structures. Together, the new venture will form a civil engineering and construction firm, whose first project will be a housing complex for demobilized Strategic Rocket Forces personnel in Khmelnitsky. The complex will produce up to 190 units.

The Ukrainians and Americans agreed to include 33 Ukrainian defense industries (formerly engaged in weapons of mass destruction work) in a competitive procurement involving western partners who submit proposals for commercial enterprises. The Request for Proposal (RFP) for the Ukrainian 33 was released on June 27, 1994, along with a Department of Commerce profile on each Ukrainian company. Proposals were submitted on September 12, with first awards expected in late November 1994.

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**PROJECT: EMERGENCY RESPONSE TRAINING/EQUIPMENT (KAZAKHSTAN)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 5.000 | 2.006 |
| TOTALS | | 5.0 | 5.000 | 2.006 |

PROJECT DESCRIPTION: The Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of Kazakhstan Concerning the Provision to the Republic of Kazakhstan of Emergency Response Equipment and Related Training in Connection with the Removal of Nuclear Warheads from the Republic of Kazakhstan for Destruction and the Removal of Intercontinental Ballistic Missiles and the Destruction of Their Silo Launchers was signed on December 13, 1993. Assistance provided under this agreement will facilitate the expansion of emergency response capabilities in connection with the removal of nuclear warheads and ICBMs from Kazakhstan. A technical exchange was conducted in the United States in August 1994. An emergency response package to be provided was jointly agreed to by the experts of both countries. Procurement action was initiated in September 1994. Equipment deliveries should be complete by June 1995.

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**PROJECT: EXPORT CONTROL (KAZAKHSTAN)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 2.260 | .160 |
| TOTALS | | 2.26 | 2.260 | .160 |

**PROJECT DESCRIPTION**: The Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of the Republic of Kazakhstan concerning the provision of assistance to the Republic of Kazakhstan related to the establishment of Export Control Systems to prevent the proliferation of Weapons of Mass Destruction was signed on December 13, 1993. Pursuant to this agreement, the Department of Defense may provide assistance up to $2.26 million in the development of Kazakhstan's export control institutions and infrastructure. This program of assistance will encompass four areas of activity: policy consultations and program development; export control technical interaction; training and technical assistance; and equipment. Export control talks were held with Kazakhstani officials in Washington in July, 1994, and were focused on developing project plans for export control assistance. The goal is to enable the Republic of Kazakhstan to effectively control the export of materials and technologies and, thereby, contribute to international efforts to halt the proliferation of weapons of mass destruction.

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**PROJECT: MATERIAL CONTROL AND ACCOUNTABILITY (KAZAKHSTAN)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 5.000 | .524 |
| TOTALS | | 5.0 | 5.000 | .524 |

PROJECT DESCRIPTION: The Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of the Republic of Kazakhstan Concerning the Control, Accounting and Physical Protection of Nuclear Material to Promote the Prevention of Nuclear Weapons Proliferation was signed on December 13, 1993. Pursuant to this agreement the Department of Defense may provide material, training, goods and services to Kazakhstan in order to improve material control and accountability of nuclear materials capabilities and infrastructure to prevent nuclear weapons material proliferation. U.S. and Kazakhstani joint technical working group meetings were held in July 1994 and the site surveys of nuclear facilities were held in September-October 1994. The draft programs have been developed and the U.S. Department of Energy and Nuclear Regulatory Commission are under contract to conduct studies, develop regulations and safeguard procedures, and build a viable nuclear security program in Kazakhstan.

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**PROJECT: GOVERNMENT-TO-GOVERNMENT COMMUNICATIONS LINK (GGCL) (KAZAKHSTAN)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 2.300 | .301 |
| TOTALS | | 2.3 | 2.300 | .301 |

PROJECT DESCRIPTION: The Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of the Republic of Kazakhstan Concerning the Provision to the Republic Kazakhstan of Material and Services For the Establishment of a Government-to-Government Communications Link was signed on December 13, 1993. Pursuant to this agreement, the Department of Defense will provide assistance to Kazakhstan in the establishment of a government to government communications link that will be used to transmit notifications required by the Treaty on the Reduction and Limitation of Strategic Offensive Arms (START) and the Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles (INF). The Department of Defense will provide specified equipment along with related technical manuals and training. Costs of material, training, and services and associated expenses, including costs related to the transportation of material and personnel to and from Kazakhstan, will not exceed $2.3 million. A Technical Experts Meeting was held in Almaty in May 1994 to discuss details of implementing the agreement. Subsequently, interim equipment was installed in the GGCL facility, and training conducted. Cut over of the interim configuration should occur October 1994, providing an initial capability to send and receive messages. A delegation from Almaty will visit the U.S. in early 1995 to see a demonstration of the new equipment (both hardware and software). The interim equipment will be replaced with new equipment to be shipped, installed, and tested by late 1995.

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($ in Millions)

**PROJECT: DEFENSE CONVERSION /INDUSTRIAL PARTNERSHIP (KAZAKHSTAN)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92 | | | |
| | FY93 | | | |
| Research, Development, Test, & Evaluation | FY92 | | | |
| | FY93 | | | |
| Procurement | FY92 | | | |
| | FY93 | | | |
| Military Construction | FY92 | | | |
| | FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 15.0 | .141 |
| TOTALS | | 15.0 | 15.0 | .141 |

**PROJECT DESCRIPTION**: The Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of the Republic of Kazakhstan Concerning the Conversion of Military Technologies and Capabilities into Civilian Activities was signed on March 19, 1994. Pursuant to this agreement, the Department of Defense will provide up to $15 million for joint business initiatives between Western and Kazakhstani companies for the conversion to civilian production of Kazakhstani defense industries formerly associated with the production of weapons of mass destruction. The projects would support industry conversion from defense related fields to commercial production, and would ask US industry to undertake a cost sharing arrangement where the USG only funds part of the program.

In late April 1994, the list of 29 Kazakhstani companies the United States was considering as candidates was published for public information in the Commerce Business Daily, other Commerce Department sources and at the Forecast to Industry. In the first week of July, both the USG and GoK agreed to a list of 8 Kazak defense companies for this effort. This list was published in the Commerce Business Daily on July 11, and the request for proposals (RFP) was released on July 26, 1994. A preproposal conference was held in Washington on August 9, and representatives from the eight Kazak companies remained in town for the week to meet privately with US businesses. US industry proposals are to be turned in by October 12, 1994, with first award expected around the end of the calendar year.

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**PROJECT: STRATEGIC OFFENSIVE ARMS ELIMINATION (KAZAKHSTAN)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | | |
| TOTALS | | 70.00 | | |

**PROJECT DESCRIPTION**: On December 13, 1993, an Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of the Republic of Kazakhstan Concerning the Provision of Material, Services, and Related Training to the Republic of Kazakhstan in Connection with the Destruction of Silo Launchers of Intercontinental Ballistic Missiles and Associated Equipment and Components was signed. Pursuant to this agreement up to $70 million in assistance will be provided to Kazakhstan for destruction of SS-18 silos and Launch Control Facilities (LCF) on Kazakhstan territory. The U.S. recommended use of an integrating contractor to supply equipment and provide management for this effort. However, due to objections raised by Russia regarding responsibility for destroying silo headworks and concerns over US access to sensitive design information, action to implement this recommendation has been postponed, pending further negotiations between Kazakhstan and Russia. A procurement package has been prepared for acquisition of an integrating contractor, and will be released as soon as the Russian objections are resolved. The project is to enable and facilitate Kazakhstan's efforts to fulfill its commitments under the START I Treaty and the Lisbon Protocol and to become a non-nuclear state.

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(By Project)
($ in Millions)

**PROJECT: EMERGENCY RESPONSE TRAINING/EQUIPMENT (RUSSIA)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92 | | 0.005 | 0.001 |
| | FY93 | | 2.851 | 2.829 |
| Research, Development, Test, & Evaluation | FY92 | | | |
| | FY93 | | | |
| Procurement | FY92 | | 5.675 | 5.675 |
| | FY93 | | 3.883 | 2.783 |
| Military Construction | FY92 | | | |
| | FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 2.540 | .600 |
| TOTALS | | 15.0 | 14.954 | 11.888 |

**PROJECT DESCRIPTION**: Pursuant to the Agreement Between the Department of Defense of the United States of America and the Ministry of Atomic Energy of the Russian Federation Concerning the Safe and Secure Transportation and Storage of Nuclear Weapons Through the Provision of Emergency Response Equipment and Related Training signed on June 17, 1992, the Department of Defense is providing emergency response equipment to be used for the purpose of facilitating the safe and secure transportation and storage of nuclear weapons in connection with their destruction. The Russians requested additional equipment, and as a result an Amendment to this agreement was signed on March 26, 1993 raising the amount of assistance from $10 million to up to $15 million. This additional funding will cover requested communications equipment, additional protective clothing, survey instrumentation, radiography equipment, video and optical equipment, access equipment, computer systems, and stabilization systems. An additional amendment was concluded on March 23, 1994 to meet the Russian request for equipment to upgrade their training facility at Mytichi. To date, ten sets of "Jaws of Life" emergency access equipment, 820 protective suits, 200 polyurethane foam kits, 30 gallons of silicone rubber, ~~100 Victoreen III plutonium detectors and calibration sources~~, 4 fiberscopes, 3 packaging vehicles, and 4 portable integrated video systems have been provided. Three computer network systems and twenty radio communication systems have also been delivered. Training on this equipment has been conducted in both the US and Russia. Training on the mobile radiography system, conducted in the United States, was completed in September 1994. Plans are underway to initiate the shipment and delivery of this system. Target date for delivery is December 1994. Two high-precision liquid abrasive cutting systems are in the final phases of assembly. Plans are underway to conduct training in the United States in December 1994 and to ship and deliver the systems in January 1995.

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**PROJECT: EXPORT CONTROLS ASSISTANCE (RUSSIA)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | | |
| TOTALS | | 2.26 | | |

**PROJECT DESCRIPTION**: Discussions have been underway to establish an implementing agreement between the United States Department of Defense and the appropriate ministries of the Russian Federation to provide assistance to Russia for improving their export control system to prevent proliferation of weapons of mass destruction, specialized equipment, and/or technologies and expertise that could be used in the production of such weapons. As the initial notification of proposed obligations was made under the now expired FY 1992 transfer authority, the DoD renotified Congress of the proposed obligations on April 29, 1994. Russia has objected to the terms in the draft text and negotiations have concluded without reaching agreement. Limited consultative and technical exchanges proposed in this area will be reviewed on a case-by-case basis.

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**PROJECT: MATERIAL CONTROL AND ACCOUNTABILITY (RUSSIA)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92 | | | |
| | FY93 | | .415 | .147 |
| Research, Development, Test, & Evaluation | FY92 | | | |
| | FY93 | | | |
| Procurement | FY92 | | | |
| | FY93 | | | |
| Military Construction | FY92 | | | |
| | FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 29.585 | 1.029 |
| TOTALS | | 30.0 | 30.000 | 1.176 |

**PROJECT DESCRIPTION:** On September 2, 1993, the Agreement Between the United States Department of Defense and the Ministry of Atomic Energy of the Russian Federation (MINATOM) Concerning the Control, Accounting and Physical Protection of Nuclear Material to Promote the Prevention of Proliferation of Nuclear Weapons from Russia was signed. Pursuant to this agreement, the Department of Defense may provide up to $10 million in material, goods and services assistance to Russia to promote the prevention of nuclear weapons proliferation. The principal elements of this project are the [redacted] model facility, where complete control systems will be modeled, and a training center. Procurements for the model facility are being developed. Negotiations on an amendment to this agreement are continuing for up to $20 million in assistance to promote the prevention of proliferation of direct use (PU & HEU) nuclear material in civilian facilities.

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($ in Millions)

**PROJECT: ARMORED BLANKETS (RUSSIA)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & | FY92 | | | |
| Maintenance | FY93 | | 3.222 | 3.144 |
| Research, | FY92 | | 0.100 | 0.100 |
| Development, Test, & Evaluation | FY93 | | | |
| Procurement | FY92 | | | |
| | FY93 | | | |
| Military | FY92 | | | |
| Construction | FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | | |
| TOTALS | | 5.0 | 3.322 | 3.244 |

PROJECT DESCRIPTION: Pursuant to the Agreement Between the Department of Defense of the United States of America and the Ministry of Atomic Energy of the Russian Federation Concerning the Safe and Secure Transportation and Storage of Nuclear Weapons Through the Provision of Armored Blankets, signed on June 17, 1992, the Department of Defense is to provide armored blankets to the Russian Federation to augment the protective capability of containers and vehicles carrying nuclear weapons to and within destruction facilities and necessary related storage facilities. On ~~July 14, 1992,~~ the delivery of 1500 existing United States Army soft armor blankets was completed. An additional 2,500 armored blankets were procured through competitive bidding. On August 31, 1992, over seventy Request for Proposal packages were sent to interested contractors by the Defense Nuclear Agency. On October 16, 1992, 24 proposals were received from 13 contractors. On December 4, 1992, a production contract worth $2,591,394 was awarded to the Protective Materials Company of Miami Lakes, Florida. This competition resulted in a savings of $1~~,3 mil~~lion. Deli~~very of 2,500 blankets was completed on June 15, 1993~~. Reports have been received that the Armored Blankets have been used in transferring weapons from Ukraine and Kazkhstan to Russia.

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($ in Millions)

**PROJECT: FISSILE MATERIAL CONTAINERS (RUSSIA)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | <br>41.700 | <br>41.699 |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | 0.600 | 0.600 |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 7.700 | 6.359 |
| TOTALS | | 50.0 | 50.000 | 48.658 |

PROJECT DESCRIPTION: Pursuant to the Agreement Between the Department of Defense of the United States of America and the Ministry of Atomic Energy of the Russian Federation Concerning the Safe and Secure Transportation and Storage of Nuclear Weapons Through the Provision of Fissile Material Containers signed on June 17, 1992, the Department of Defense is to provide the Russians a number of fissile material containers to be used in providing safe and protective transport and storage of fissile material in connection with the expeditious destruction of nuclear weapons. The agreement calls for the Department of Defense to initially deliver up to 10,000 containers. DoD plans to produce as many containers as possible within the $50 million funding limit. Sandia National Laboratories (SNL) provided the design and prototype development. Additionally, SNL is providing compliance testing and technical support. To date, SNL has been funded at a level of $3.35M. A $40M production contract for over 32,000 containers was awarded September 14, 1993 to Scientific Ecology Group, Inc. Ten prototype containers were delivered to Russia on April 13, 1993. An additional 16 pre-production units will be shipped in mid-October 1994. Full-scale production is scheduled to start in November 1994. The target date for completing delivery of the first 10,000 containers is December 31, 1995.

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($ in Millions)

## PROJECT: STORAGE FACILITY DESIGN FOR FISSILE MATERIALS (RUSSIA)

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92 | | | |
| | FY93 | | | |
| Research, Development, Test, & Evaluation | FY92 | | | |
| | FY93 | | | |
| Procurement | FY92 | | | |
| | FY93 | | | |
| Military Construction | FY92 | | | |
| | FY93 | | 15.000 | 14.969 |
| Former Soviet Union Threat Reduction | FY94 | | | |
| TOTALS | | 15.0 | 15.000 | 14.969 |

**PROJECT DESCRIPTION**: Pursuant to the Agreement between the Department of Defense of the United States of America and the Ministry of Atomic Energy of the Russian Federation concerning Technical Assistance for Design of a Safe, Secure, and Ecologically Sound Storage Facility for Fissile Material derived from the Destruction of Nuclear Weapons signed on October 5, 1992, the Department of Defense is to provide technical design assistance to the Russian-led facility design effort. Costs under this agreement are not to exceed $15 million. This agreement expressly provides that it shall not be construed as committing the Department of Defense to provide any assistance with respect to the construction of the facility. Initial Russian design requirements were received on August 3, 1992. The Russian Federation Design Team visited the United States December 4-18, 1992, to receive Computer Aided Design (CAD) Training, Harden Structure Training, participate in technical discussions, and to conduct a management review. A joint concept design was agreed to in March 1993. During a U.S./Russian management meeting in February 1994, the Russian design team announced they had completed their preliminary design of a "generic" facility and were prepared to obtain the necessary permits required to begin construction of the facility. The Russian team asked for additional U.S. assistance in reviewing the generic design they had produced and in adapting the generic design to a specific location. In March 1994, the U.S. received official notification the facility is to be located at the Mayak site in Chelyabinsk. Though the Russians expected to begin construction of the facility in mid-to-late summer 1994, construction has been delayed due to the Russians' inability to fund the construction effort. Initial site preparation activity, however, has been observed in Mayak.

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($ in Millions)

**PROJECT: FISSILE MATERIAL STORAGE FACILITY EQUIPMENT (RUSSIA)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 75.000 | 26.493 |
| TOTALS | | 75.0 | 75.000 | 26.493 |

PROJECT DESCRIPTION: Pursuant to the Agreement Between the Department of Defense of the United States of America and the Ministry of Atomic Energy of the Russian Federation Concerning The Provision of Material, Services, and Training Relating to the Construction of a Safe, Secure, and Ecologically Sound Storage Facility for Fissile Material Derived from the Destruction of Nuclear Weapons signed on September 2, 1993, the DoD will provide material, training, and services related to the construction and operation of the Russian Storage Facility. The total cost to the U.S. shall not exceed $75 million. From November 1993 to March 1994, implementation of the agreement was delayed due to lack of funding and introduction of Section 1612 (the Markey Amendment) to the FY 94 National Defense Authorization Act. In January 1994, the Russian Federation furnished the U.S. a list of equipment they required to support construction of the facility. In March 1994, the project was funded and in April 1994, Section 1612 was resolved. The U.S. began equipment negotiations with the Russians in April. Procurement of construction equipment has begun; delivery of equipment is expected to begin with demonstrated Russian commitment to constructing the facility. At present, the Russian Government has not funded actual construction of the facility, although representatives have indicated it is funded in the 1995 budget.

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(By Project)
($ in Millions)

**PROJECT: SECURITY ENHANCEMENTS FOR RUSSIAN RAIL CARS (RUSSIA)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | 0.500 | 0.500 |
| Procurement | FY92<br>FY93 | | 3.000<br>16.500 | 3.000<br>16.500 |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 1.500 | 1.500 |
| TOTALS | | 21.5 | 21.500 | 21.500 pasiest |

**PROJECT DESCRIPTION:** Pursuant to the Agreement Between the Department of Defense of the United States of America and the Ministry of Atomic Energy of the Russian Federation Concerning the Safe and Secure Transportation of Nuclear Weapons and Nuclear Weapons Material Through the Provision of Cargo and Guard Rail Car Conversion Kits signed on August 28, 1992, the Department of Defense is to provide the Russians cargo and guard rail car conversion kits for the purpose of providing protective transportation of nuclear weapons and nuclear weapons material in connection with the expeditious destruction of nuclear weapons. Specifically, the Department of Defense is to deliver up to 100 cargo rail car conversion kits and 15 guard rail car conversion kits plus fifteen percent spare parts, using funds available up to a limit of $20 million. An amendment was signed on March 23, 1994 increasing this amount by $1.5 million to accommodate late design changes to the kits for a total of $21.5 million. On December 7, 1992, a Russian cargo rail car arrived at Sandia National Laboratory and was used in the development of the conversion kits. Modification of the prototype is complete. The prototype and the first three modification kits were delivered to the Tver rail car modification facility in November 1993. An operational rail test, conducted jointly by both countries, was successfully completed on the Russian rail system in May 1994. As of 30 September 1994, 74 Ministry of Defense cargo car modification kits and 16 guard car modification kits have been delivered. Plans are underway to complete all deliveries by March 1995. It is estimated by the Russian modification plant, that 70 cargo cars and 7 guard cars will be completed by the end of December 1994.

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($ in Millions)

**PROJECT: CHEMICAL WEAPONS DESTRUCTION (RUSSIA)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | 1.575<br>.882 | 1.533<br>.857 |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 22.310 | 12.723 |
| TOTALS | | 55.0 | 24.767 | 15.113 |

PROJECT DESCRIPTION: On July 30, 1992, the Agreement Between the Department of Defense of the United States of America and the President's Committee on Conventional Problems of Chemical and Biological Weapons of the Russian Federation Concerning the Safe, Secure and Ecologically Sound Destruction of Chemical Weapons was signed in Washington, D.C. It provides a framework for chemical weapons destruction assistance to be provided by the Department of Defense to the Russian Federation, to include training and services. All material, training and services provided under the Agreement are to be used exclusively for the purpose of facilitating the safe, secure, ecologically sound, and expeditious destruction of chemical weapons. Specifically, the Agreement provides up to $25 million in assistance for: development with the Committee of a comprehensive plan for Chemical Weapons (CW) destruction; provision of detection, systems of analysis, and alarm systems for the transport of chemical weapons and/or for safety and warning purposes at chemical weapons destruction sites; establishment of a familiarization program for Russian Federation chemical weapons destruction experts and engineers at facilities in the United States selected by the Department of Defense; visits by Committee technical representatives to United States chemical weapons destruction facilities; demonstration of protective equipment and provision of other training or tutorials related to chemical weapons destruction; and other cooperation related to Chemical Weapons Destruction as agreed to by both parties.

A Chemical Weapons Destruction Support Office (CWDSO) was established June 15, 1993 in Moscow, and is staffed by the United States Army Chemical/Biological Defense Command (CBDCOM), Corps of Engineers, On-Site Inspection Agency (OSIA), and SAIC (contractor) personnel. Exchange visits have been made to provide Russian officials information on the U.S. Chemical

Stockpile Disposal Program. A Russian/US 1994 Plan of Work has been signed. Six interns from Russia completed technical and managerial training in the US for the Russian disposal program; and a U.S. contractor, Bechtel National, Incorporated, was selected in May 1994 to assist the Russian Federation in preparing a comprehensive CW Destruction Implementation Plan.

The Bechtel team, working as part of the CWDSO, will assist in developing process and facility design criteria, perform destruction site characterization studies, and help prepare an emergency preparedness plan. An Advanced Planning Briefing was conducted, with Russian participation, on 23 - 24 June 1994 to address concerns/issues related to possible U.S. funding of the design and construction of a CW destruction facility in Russia. In September 1994, the Ministry of Defense of the Russian Federation proposed a six-phase joint development program (U.S. funded) which would culminate in a destruction facility for chemical agent filled artillery projectiles using a Russian two-step destruction process. The U.S. has proposed joint evaluation of the Russian destruction process to determine the feasibility of the Russian proposal.

On March 18, 1994, the Department of Defense of the United States and the President's Committee signed an amendment to the July 1992 Agreement adding up to an additional $30 million to the program. These funds are to be used to build a Central Chemical Weapons Destruction Analytical Laboratory. A potential site has been identified in Russia and a U.S. team evaluated the proposed building and site in November 1993. A kick-off meeting for implementation of the Central Lab was held 13 -17 June 1994 in Moscow. A Russian delegation comprised of eight technical experts working on the laboratory project visited the U.S. laboratory facilities 22 - 25 August 1994 and received an orientation on U.S. analytical instrumentation and methods, particularly those associated with the U.S.Chemical Stockpile Disposal Program.

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(By Project)
($ in Millions)

**PROJECT: STRATEGIC OFFENSIVE ARMS ELIMINATION (SOAE)**
**(RUSSIA)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92 | | | |
| | FY93 | | .047 | .047 |
| Research, Development, Test, & Evaluation | FY92 | | | |
| | FY93 | | | |
| Procurement | FY92 | | | |
| | FY93 | | 78.653 | 64.824 |
| Military Construction | FY92 | | | |
| | FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 2.760 | 2.301 |
| TOTALS | | 130.0 | 81.460 | 67.172 |

**PROJECT DESCRIPTION**: An Agreement between the Department of Defense of the United States of America and the Committee for Defense Industry of the Russian Federation Concerning Cooperation in the Elimination of Strategic Offensive Arms was signed on August 26, 1993. Pursuant to this Agreement, the Department of Defense will provide assistance to the Russian Federation to accelerate the dismantlement of Russian Strategic Offensive Arms (SOA) under the terms of the START Treaty. Funding supports the procurement of a wide variety of equipment items including intermodal containers, flatbed rail cars, emergency response equipment, cutting shears for SLBM launchers and heavy bomber elimination and an assortment of other equipment necessary for specific dismantlement efforts. As of 30 September 1994, all but one procurement (a supplemental request for additional metal balers) had been awarded. Virtually, all the small industrial tools and the bulldozers have been shipped to Russia. The other equipment is being shipped on a mutually agreed schedule. Most will be in place by April 1995. The U.S. will also provide the Russians with one year of maintenance materials and initial training related to the operation of the equipment provided.

COOPERATIVE THREAT REDUCTION PROGRAM
SEMI-ANNUAL REPORT SUMMARY
(April 1, 1994 - September 30, 1994)
ON THE PROGRAM ESTABLISHED UNDER P.L. 102-229 SECTION 108
(By Project)
($ in Millions)

**PROJECT: INTERNATIONAL SCIENCE AND TECHNOLOGY CENTER (ISTC) (RUSSIA)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | .150<br>1.250 | .150<br>1.250 |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 23.600 | 21.107 |
| TOTALS | | 25.0 | 25.000 | 22.507 |

**PROJECT DESCRIPTION**: On November 27, 1992, the United States, along with the Russian Federation, the European Community, and Japan, signed an Agreement which establishes an International Science and Technology Center in Moscow for the purpose of aiding the transition of Russian weapons scientists to peaceful scientific endeavors. After signature, the Agreement was submitted to the Russian Parliament for ratification. Ratification was delayed because of the dissolution of the Russian Parliament in October 1993. A protocol was signed by all parties on December 27, 1993 that allowed the Center to begin operations on a provisional basis pending ratification by the new Russian Parliament. Operations began on March 3, 1994. At the present time, the total potential obligation by the U.S. Government for the ISTC is $25 million. In addition to the initial parties, Finland, Sweden, and Georgia are now members; and Belarus, Armenia, Kazakhstan, and Canada have expressed their intentions to become members.

The Governing Board, which directs the operation of the center, met in March, June and again in September 1994. At these meetings, the board approved some seventy-six projects worth a total of $40.8 million. The U.S. portion of this obligation is about $22 million. Of these approved projects, 21 have led to formal, signed project agreements, for which the U.S. has transferred $5.5 million in advance payments to the ISTC. Since its establishment last March, the ISTC has made direct grant payments to 571 scientists involved in Center projects. In total, these projects will sponsor more than 4,000 scientists and engineers, the majority of whom were involved in weapons activities, for periods of [redacted]

Many projects approved for funding involve teams from a range of Russian institutes. Projects are located in institutes in Moscow and the Moscow region, St. Petersburg, Nmovosibirsk, Chelyabinsk-70, Arzamas-16, Tomsk-7, and in Georgia.

# COOPERATIVE THREAT REDUCTION PROGRAM
SEMI-ANNUAL REPORT SUMMARY
(April 1, 1994 - September 30, 1994)
ON THE PROGRAM ESTABLISHED UNDER P.L. 102-484
(By Project)
($ in Millions)

**PROJECT: RESEARCH AND DEVELOPMENT FOUNDATION (RUSSIA)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | | |
| TOTALS | | 10.0 | | |

PROJECT DESCRIPTION: On September 6, 1994, DoD notified Congress of the proposed obligations of $10 million for the establishment of a Research and Development (R&D) Foundation in Russia. Funds for the R&D Foundation were to be derived from funds previously notified for Industrial Partnerships in Belarus in the FY 1993 Reprogramming request. Funds are to be transferred to the Director of the National Science Foundation to provide assistance to weapons scientists and engineers in the former Soviet Union.

COOPERATIVE THREAT REDUCTION PROGRAM
SEMI-ANNUAL REPORT SUMMARY
(April 1, 1994 - September 30, 1994)
ON THE PROGRAM ESTABLISHED UNDER P.L. 102-396 SECTION 9110 (b)(1)
(By Project)
($ in Millions)

**PROJECT: ARCTIC NUCLEAR WASTE ASSESSMENT PROGRAM (ANWAP)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | 10.000 | 10.000 |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 10.000 | 8.561 |
| TOTALS | | 20.0 | 20.000 | 18.561 |

PROJECT DESCRIPTION: The FY 1994 Department of Defense Appropriations Act, P.L. 103-139, requires that $10M shall be available for the identification, study, and assessment of nuclear waste disposal by the former Soviet Union in the Arctic regions. This is a continuation and expansion of the project funded in FY 1993 by similar legislative direction. The ~~Office of Naval Research~~ (ONR) has been designated as the implementing organization for this program. For FY 1993 ONR awarded approximately 40 grants and contracts to various organizations including the ~~Naval Research Laboratory~~ as well as many other participants from academia, private industry, and the government. For FY 1994 a similar plan is being executed involving over 45 grants and contracts now in place.

The program for 1993 involved roughly ten Arctic cruises, and obtained some 11,000 samples from approximately 600 different stations. Analysis of these data will continue through 1996, but initial results suggest that, except for very localized areas in Kara Sea fjords and bays, there are no unusually high radiation levels in the Arctic environment or Alaskan waters. Further, preliminary numerical analyses indicate that, even under worst-case scenarios, the long-term impact of the dumped nuclear wastes will be minimal. A report describing these first-year results was transmitted to Congress earlier this year.

The program for 1994,which is now underway, will provide improved theoretical modeling to allow validation for (or changes to) the above conclusions. Additional sampling of the Arctic regions will be conducted, and areas of the North Pacific will be examined, specifically the dump sites that could affect Alaskan waters. The radionuclide burden on the Arctic region generated by Russia's north-flowing river systems will also be studied.

Finally, recommendations for cost effective improvements to the relevant Alaskan environmental monitoring systems will be provided.

COOPERATIVE THREAT REDUCTION PROGRAM
SEMI-ANNUAL REPORT SUMMARY
(April 1, 1994 - September 30, 1994)
ON THE PROGRAM ESTABLISHED UNDER P.L. 102-396
(By Project)
($ in Millions)

**PROJECT: DEFENSE CONVERSION/INDUSTRIAL PARTNERSHIP (RUSSIA)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 20.000 | 17.122 |
| TOTALS | | 40.0 | 20.000 | 17.122 |

**PROJECT DESCRIPTION:** On December 16, 1993, the Department of Defense of the United States of America and the Russian Ministries of Defense and Economy signed a Protocol on Cooperation in the Implementation of Certain Defense Conversion Projects. An amendment to this Protocol was signed March 18, 1994.

The Russians agreed to two defense conversion projects, with a third under development. The Russians provided five former Weapons of Mass Destruction (WMD) companies as candidates for conversion into prefabricated housing industries. They also provided four former WMD as candidates for conversion into whatever commercial venture the Russian-American partners propose. Each project was committed at up to $20 million, and will be procured under competitive bid. Each calls for cost sharing by the US partner, where the USG pays for only part of the costs for start-up of the venture. contributions ~~are expected from the Russian side of the relationship as well.~~ The third area under development is a list of 83 Russian companies which could be available for partnering with western firms for any commercial project proposed. This last project was placed on hold ~~pending the availability of funds~~.

The Industry program involves four Russian companies formerly involved in ~~WMD~~. They are the NPO Machinostroyena (which designed satellites and space launch vehicles), Leninets (which designed missile guidance and radars), Istok (which designed command and control equipment), and Gosniias (which designed bombers and aircraft). Western companies were asked to partner with parts of one or more of these companies, and accept a cost sharing relationship were the USG pays for only part of the venture. The draft procurement document was issued for public comment in January while details were being finalized with the Russian Government. The actual request for proposal (RFP) was issued on

March 8, with preproposal conferences in Washington on March 22, and Moscow on April 21. Representatives of the four Russian firms remained in Washington for private meetings. Proposals were submitted on May 10, 1994.

Four industry awards were announced, involving each Russian company. A $1.949M award was announced on June 21 for International American Products (IAP) of Columbia, SC. IAP will work with Leninets of St. Petersburg to re manufacture dental chairs and develop a product line of dental products. They will create a joint venture to service the needs of Russian dentists. A $5.1M contract was announced on June 21 for Double Cola of Chattanooga, TN. Double Cola will form a joint venture with NPO Mashinostroyena to open a soda bottling plant and distribution system. A $5.47M award was announced on July 29 for Hearing Aids International (HAI) of Sommersworth, NH. HAI will form a joint venture with Istok to manufacture behind-the-ear hearing aids (currently imported into Russia) for retail in Russia. A $4.1M award was announced on July 29 to Rockwell of Richardson, TX. Rockwell, and partner Hughes, will form an association with Gosniias to develop producers for an air traffic control system for Russia.

The prefabricated housing project involves five Russian companies formerly involved in WMD. They are Soyuz (which made rocket propellant), NPO Kompozit (which designed and made parts for rocket motor engines), NPO Machinostroyena (which designed satellites and space launch vehicles), Tupolov (which designed strategic bombers), and Energomash (which designed liquid rocket engines for ballistic missiles). Western companies would partner with parts of these companies to create prefabricated housing industry. A first production order of about 500 units (to establish the company in the market and set up their supply system) would create housing for demobilized military personnel. The Ministry of Defense would provide the land, infrastructure, and foundations for the housing at a site about 30 kilometers southwest of the Moscow Ring Road at a former Air Defense training base. The draft procurement document was issued for public comment in January while details were being finalized with the Russians. The actual request for proposal (RFP) was issued on May 2, 1994. A preproposal conference was held in Washington on May 10, and representatives from the five Russian firms remained in town for a week for private meetings with the American partners. Proposals were received on June 27, 1994. Originally, the project was to be funded using FY 93 funds, with award scheduled for September 1994.

In December 1993, a list of 89 Russian defense companies, most formerly engaged in WMD work, was provided to the Russian Government. The intent was to undertake a procurement like the industry four above, but have a larger group for Americans to choose from. All 89 would not be funded partnerships. American companies who do not receive funding under this might choose to take on their own privately funded business deals with their Russian partners. In order to give US industry an advance notice and to solicit industry comments, the list was published on March 15 and June 8 in the Commerce Business Daily. The final list of 82 companies was agreed to with the Russians in early July. However, a procurement action is on hold pending the availability of FY95 funds for the project.

## COOPERATIVE THREAT REDUCTION PROGRAM
SEMI-ANNUAL REPORT SUMMARY
(April 1, 1994 - September 30, 1994)
ON THE PROGRAM ESTABLISHED UNDER P.L. 103-139
(By Project)
($ in Millions)

**PROJECT: DEFENSE DEMILITARIZATION ENTERPRISE FUND**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | | |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 7.670 | 7.670 |
| TOTALS | | 7.67 | 7.670 | 7.670 |

**PROJECT DESCRIPTION:** The fund is earmarked for ventures involving Western partners and former weapons of mass destruction production industries in Russia, Kazakhstan, Belarus, and Ukraine. The ventures would pursue commercial, privately owned endeavors. Annual USG grants to the Fund would be needed until the loans and equity shares provided substantive returns on the investment.

The Fund was incorporated on March 8, 1994. Over the next three months, the Board was selected and approved by the White House, and the charter and terms of the grant were negotiated. The grant was issued to the Fund on June 23, 1994. The Fund expects to approve its first ventures this Fall.

# COOPERATIVE THREAT REDUCTION PROGRAM
SEMI-ANNUAL REPORT SUMMARY
(April 1, 1994 - September 30, 1994)
ON THE PROGRAM ESTABLISHED UNDER P.L. 102-229 SECTION 108
(By Project)
($ in Millions)

**PROJECT: DEFENSE AND MILITARY CONTACTS (RUSSIA, BELARUS, UKRAINE, KAZAKHSTAN)**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92<br>FY93 | | .187 | .167 |
| Research, Development, Test, & Evaluation | FY92<br>FY93 | | | |
| Procurement | FY92<br>FY93 | | | |
| Military Construction | FY92<br>FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 13.600 | 6.365 |
| TOTALS | | 15.0 | 13.787 | 6.532 |

**PROJECT DESCRIPTION**: Individual Memoranda of Understanding (MOU) and Cooperation on Defense and Military relations have been signed between the United States Department of Defense and the Ministries of Defense of Russia, Belarus, Kazakhstan and Ukraine. The MOU with Ukraine was signed July 27, 1993, the MOU with Russia was signed September 8, 1993, the MOU with Belarus was signed October 28, 1993, and the MOU with Kazakhstan was signed February 14, 1994. These projects will develop an active and positive defense and military relationship with Former Soviet Union (FSU) states to pave the way for cooperation in dismantlement and demilitarization efforts. Defense and military contacts are intended to encourage and assist the FSU military in the restructuring and downsizing of their defense establishment; address, as far as possible, the military's concerns and encourage their support for demilitarization activities and democratic reforms; help the military to better understand civil-military relations; and increase US military understanding of the FSU. The primary goal of this program is to establish a network of professional exchanges that gives FSU defense and military establishments a stake in continued good relations.

Over 116 different events have been held. Participants have included U.S. military departments, the Coast Guard, the United States European, Space, Strategic and Pacific Commands, the Joint Staff, and the Defense Intelligence Agency. A wide range of defense and military contacts were conducted during the period in each eligible FSU state.

**Russia**: CINCSTRATCOM visited Russian Strategic Rocket Forces and a follow-on working level exchange was agreed; the CINC of Russian Space Forces visited USSPACECOM in an important step in developing a continuing dialogue on space issues; Russian Strategic Bomber Forces paid a Sister Base visit to Barksdale AFB; the Commander of Russian Border Guards visited a wide range of USG agencies which included discussion of such issues as nonproliferation; the MOD

Chief of Communications visited the US and a defense telephone link was established between DoD and the Russian MOD; the second in a series of Joint Staff Talks was held in Moscow during which a wide range of security and military issues were discussed; CINC TRANSCOM visited Russian transport aviation units in order to gain a better understanding of possible future cooperation with, for example, airlift to support joint peacekeeping operations; the US conducted a ship visit and the first USMC-Russian Naval Infantry maritime disaster relief exercise in Vladivostok, the USCG and the Russian Border Guards Maritime forces conducted a Search and Rescue exercise off Alaska, the US hosted a delegation of over 25 senior Russian General Officers for a visit to the Naval War College and Washington. Finally, The Department conducted a historic first joint US-Russian Peacekeeping exercise at Totskoye, Russia. In preparation for this exercise several exchanges were held on peacekeeping doctrine that resulted in a joint document that was used during the exercise and provides the basis for future peacekeeping operations.

**Ukraine**: DoD held a Bilateral Working Group meeting in Washington during which a wide range of defense and security issues were discussed; DoD hosted visits to the US by three Ukrainian Ground Force delegations to US Army Officer development, NCO training and Reserve and National Guard facilities; DoD communication technicians visited Kiev and established a defense telephone link; DoD and Ukrainian MOD conducted Joint Staff Talks in Washington; the US Army Recruiting Command visited Ukraine to explain the US all-volunteer force concept; DoD conducted training in US parachuting techniques in Ukraine followed by a visit of a Ukrainian Airborne platoon to Fort Bragg.

**Kazakhstan**: A Bilateral Working Group meeting was held in Washington, and a US Coast Guard Team visited Kazakhstan to assess their Caspian Sea border patrol fleet.

**Belarus**: A Bilateral Working Group meeing was held in Washington; Belarusian Ground Force delegations visited the US Army Recruiting Command to learn about the US all-volunteer force concept and National Guard and Reserve facilities to learn about the US citizen soldier concept; DoD conducted numerous exchanges between US European Command units and Belarusian units on military issues of mutual interest.

COOPERATIVE THREAT REDUCTION PROGRAM
SEMI-ANNUAL REPORT SUMMARY
(April 1, 1994 - September 30, 1994)
ON THE PROGRAM ESTABLISHED UNDER P.L. 102-229 SECTION 108
(By Project)
($ in Millions)

**PROJECT: OTHER ASSESSMENT/ADMINISTRATION COSTS**

| Appropriation | | Total Proposed Obligations to Congress | Current Obligational Authority | Actual Obligations (Cumulative) |
|---|---|---|---|---|
| Operations & Maintenance | FY92 | | .195 | .134 |
| | FY93 | | 1.732 | 1.581 |
| Research, Development, Test, & Evaluation | FY92 | | .625 | .475 |
| | FY93 | | .850 | .850 |
| Procurement | FY92 | | | |
| | FY93 | | | |
| Military Construction | FY92 | | .510 | .460 |
| | FY93 | | | |
| Former Soviet Union Threat Reduction | FY94 | | 10.530 | 5.676 |
| TOTALS | | 15.0 | 14.442 | 9.176 |

**PROJECT DESCRIPTION**: As reported to Congress on May 16, 1992, February 16, 1994 and March 2, 1994, these funds were proposed to be obligated for the purpose of assessing the feasibility of other proposals and supporting the development of specific programs authorized under Section 108 of P.L. 102-229, Title XIV of P.L. 102-484, and Title XII of P.L. 103-160. Funds have been obligated for the developmental, administrative and support costs of the overall effort and of each project in the initial stages until specific requirements are identified and proposed obligations are reported to Congress for the projects. During this reporting period, these funds have been used for such activities as: CTR Delegation travel expenses, CTR technical team travel expenses, translator/interpreter support, Department of State travel expenses, Department of Transportation support, Forecast to Industry Conference, and contracted technical and analytical support. Additionally, funds were specifically approved for designated efforts: Defense Conversion Resident Advisor Program and the development of the Defense Demilitarization Enterprise Fund. Support is also to be provided from the National Academy of Sciences.

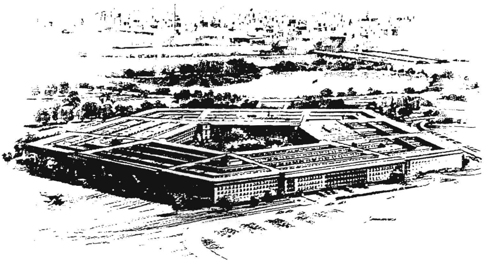
# APPENDIX E.

## FEBRUARY 1995 CTR ANNUAL REPORT TO PRESIDENT

This is William J. Perry's annual report to Congress and the President. It is used here to illustrate the lack of effective nonproliferation policy currently being practiced in Russia and the NIS.

# Annual Report

## to the
## President
## and the
## Congress



William J. Perry
Secretary of Defense

February 1995

Promise of CTR made the Trilateral Statement in January 1994 possible; delivery of CTR assistance led to further progress. Once the necessary agreements had been signed, assistance began to flow, in the shape of security equipment, vehicles, cranes, fuel, transportation equipment, and similar items. In the course of efforts to implement the Trilateral Statement, Ukrainian officials requested several specific items on an accelerated schedule. Within three weeks, a shipment was on its way. In August 1994, Leonid Kuchma was elected president, and requested CTR assistance in helping meet important domestic and international goals within his first 100 days in office. Cooperating closely with the Kuchma government, the CTR program identified areas where speedy provision of aid would have visible impacts, and rushed fuel, lubricants, emergency response support equipment, and industrial and computer equipment to accelerate the deactivation of SS-19 and SS-24 missile silos. One outcome of this demonstrated willingness to help Ukraine live up to its commitments was the Ukrainian legislature's November 1994 vote to approve accession to the Nuclear Non-Proliferation Treaty (NPT) as a non-nuclear weapon state, an outcome no one took for granted. Ukraine formally acceded to the NPT in December. The case of Ukraine demonstrates how effectively and quickly the CTR program can be implemented, once the negotiation process is completed.

## CTR PROGRAM OBJECTIVES

The objectives of the CTR program as established by Congress are:

- To assist the former Soviet states to destroy nuclear, chemical, and other weapons of mass destruction.
- Transport, store, disable, and safeguard weapons in connection with their destruction.
- Establish verifiable safeguards against the proliferation of such weapons.
- Prevent diversion of weapons related scientific expertise.
- Facilitate demilitarization of defense-industries and conversion of military capabilities and technologies.
- Expand defense and military contacts between the United States and the NIS.

These objectives are inextricably linked to each other, as are the corresponding CTR program activities. Meeting the objective of safeguarding nuclear weapons in Russia, for instance, will also help prevent proliferation, a growing concern in light of recent reports of nuclear smuggling.

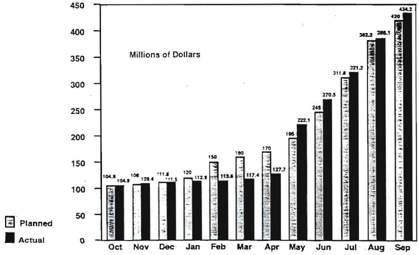
CTR program activities generally fall into four categories in accordance with these objectives. First, Destruction and Dismantlement activities accelerate the destruction and dismantling of weapons of mass destruction and their launchers in the four eligible states where they remain by providing leverage to encourage these countries to dismantle and by providing the actual equipment and training required to implement dismantlement decisions.

Second, through Chain of Custody activities, the CTR program decreases the dangers from the nuclear warheads and fissile materials that remain in the NIS and represent a potential threat to the United States. During the difficult period of transition in these states, the continued security and custody of nuclear weapons and materials is vitally important to both the United States and the NIS.

Third, CTR supports Demilitarization efforts which decrease the long-term threat by reducing the capacity and economic pressures in the NIS to continue to produce weapons of mass destruction. The industrial partnership projects in CTR are an effort to reduce the potential of a future nuclear threat at its source. Furthermore, the transformations created through the industrial partnership arrangements prevent proliferation by reducing both the supply of WMD available for foreign sale or diversion and the incentives for relying on such sales for income.

Lastly, the CTR program supports Other Programs and Support such as the expansion of defense and military contacts with the NIS. When the Soviet Union dissolved, the republics it contained were left with structures, forces, and equipment that were not well suited to their new-found sovereignty. The United States, through defense and military contacts, has been able to assist in the development of democratic and civilian control of military departments and the restructuring and downsizing of defense capabilities to better reflect these new nations' current needs. For example, the CTR program sponsors regular exchanges on defense strategy and greater transparency of budgets and programs. These countries will remain important players in world events and the United States benefits greatly from the close contacts with its military and defense counterparts. These contacts are part of U.S. efforts across the board to expand the domain in which U.S. security concerns coincide, rather than conflict, with those of the NIS. Recognizing that differences will still occur, developing long-term institutional relationships contributes to improving substantive professional dialogue on important defense and military issues, in addition to facilitating denuclearization and nonproliferation activities.

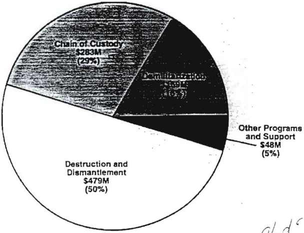
**FY 1994 CTR Program Baseline Obligations**



## PROGRESS IN CTR IMPLEMENTATION

To meet CTR objectives, the program consists of numerous separate projects agreed to in the agreements and memoranda of understanding between the United States and Russia, Belarus, Ukraine, and Kazakhstan. The CTR program has grown impressively, particularly over the past year, with the baseline obligation rate increasing over four-fold, to about $434 million at the end of FY 1994 (see chart above). By that time, DoD had notified Congress of proposed obligations totaling nearly $969 million from funds authorized for FY 1992 to FY 1994 for specific projects for the eligible states. More importantly, the total assistance committed under agreements concluded with DoD and for which implementation is actually underway is now $898 million. The following chart indicates CTR funding commitments by program area.

FY 1992—FY 1994 CTR Commitments by Program Area



The CTR process from negotiation, to project formulation, to requirements definition, to final execution, involves many steps in the respective state-to-state relationships as well as within the U.S. government. Congress has directed that American contractors be used for CTR support to the extent feasible. Accordingly, DoD contracting for CTR goods and services is accomplished based on Federal Acquisition Regulations to ensure that U.S. businesses are treated fairly. In the final analysis, CTR benefits the U.S. economy by providing additional jobs for American workers and expanded markets for U.S. corporations.

# APPENDIX F.

# NEWS RELEASE, ASST. SEC. OF DEFENSE

Illustrated here are the narrow and short-sighted applications behind defense conversion policies.

NEWS RELEASE
OFFICE OF ASSISTANT SECRETARY OF DEFENSE
(PUBLIC AFFAIRS)
WASHINGTON, D.C. - 20301
PLEASE NOTE DATE

No. 007-95
(703)695-0192(media)
(703)697-3189(copies)
IMMEDIATE RELEASE January 5, 1995 (703)697-5737(public/industry)

## Remarks Prepared for Delivery by Secretary of Defense William J. Perry
**The National Press Club**
**Washington, D.C.**
**January 5, 1995**

At the peak of the Cold War, Andrei Sakharov, the great Russian physicist, said, "Reducing the risk of annihilating humanity in a nuclear war carries an absolute priority over all other considerations." At the time Sakharov said that, both the United States and the Soviet Union believed that the danger of annihilating humanity with nuclear weapons was very real. Both developed a strategy, Mutual Assured Destruction, or MAD, to prevent a nuclear catastrophe. And both developed awesome nuclear arsenals to carry out their strategy.

MAD has been compared to two men, standing ten feet apart, each pointing a revolver at the other's head. The revolvers are loaded, each man has his finger on the trigger, and each is shouting insults at the other. This vivid metaphor captures the mutual terror that was at the base of our security policy during the Cold War. Today, with a democratic government in Russia, the Cold War is history and we would like to forget the nightmare that was Mutually Assured Destruction. We're now pursuing a strategy of Mutually Assured Safety, which is based on cooperation and build-down of weapons, instead of competition and buildup.

But we must not forget that, while MAD no longer exists, the tens of thousands of nuclear weapons spawned by MAD still do exist. And we must recognize the fragility of democratic institutions in Russia. As the ongoing tragedy in Chechnya makes all too clear, political stability is not assured in Russia.

A reversal of reform could result in an authoritarian, militaristic regime hostile to the West -- and which still possesses 25,000 nuclear weapons. In short, a reversal of reform in Russia could return us to the MAD nightmare. As my friend and colleague Tony Lake said this weekend on *Meet the Press*, "We have a tremendous stake in a healthy and democratic Russia."

In that connection, I can only reiterate our continuing concern over the crisis in Chechnya. This is a terrible tragedy for everyone involved. We deeply regret the violence that has left so many innocent civilians killed or wounded. We have repeatedly urged an end to this violence and called for a negotiated settlement.

or Iraq or Iran. Both Russia and the United States will have access to the results of their civilian work, which could lead to joint commercial projects or joint business ventures.

However, these are the kind of Nunn-Lugar projects that suffer the most from misconceptions. When I talked with a group of freshmen House Republicans last month, I was asked, "Why are we spending money on quality of life for former Soviet troops when we should be worried about American troops?"

Let me answer that question with a real-world example. As I related earlier, we're helping the Ukrainians shut down Pervomaysk and also their other ICBM launch facility at Khmelnitsky. Who's helping us close these bases? The same people who operated them: former officers of the Soviet Strategic Rocket Forces. But this creates a problem. These people live on these bases. They have no other homes. And there are no other homes for them, since Ukraine has a severe housing shortage. By law in Ukraine, military officers cannot be decommissioned unless housing is provided. Like any nation, Ukraine doesn't reward military officers for a lifetime of service by putting them out onto the streets. But we want these officers to retire. We certainly don't want a corps of disgruntled nuclear weapons officers at loose ends. The only way to ensure Ukraine's missile bases will be closed and the missile officers will leave the service is to help Ukraine build housing for them.

So this year, the Nunn-Lugar program helped to set up two partnerships between American and Ukrainian firms to build housing for demobilized missile officers at Pervomaysk and Khmelnitsky. The first partnership will convert a Ukrainian military shipbuilding factory into a prefab housing facility. The other will build four apartment complexes with materials produced in a factory in Kiev that once made Soviet missile silos. And when these projects are completed, these U.S.-Ukraine business partnerships can build housing at these factories for the commercial market.

Therefore, my answer to that congressman's question was, "We're not helping to build housing for Soviet missile officers to improve their quality of life; we're doing it to improve our quality of life." That housing is critical to eliminating nuclear weapons that could threaten us. And, at the same time, we're bringing U.S. businesses into a potential new market.

The same holds true for dealing with nuclear weapons factories. The Nunn-Lugar program puts up a little seed money to help U.S. businesses create joint ventures with former Soviet weapons industries. Together, they'll produce non-military products for commercial sale. Nunn-Lugar money leverages investments by American businesses, which can then go on to establish a new market for their goods in expanding economies.

For example, four American companies -- Rockwell, Double Cola Company, International American Products and Hearing Aids International -- signed agreements this summer to help convert four Russian firms to commercial production. Instead of making nuclear weapons components, the Russian firms will make dental equipment, hearing aids and air traffic control equipment, or bottle cola.

Our cities can't be destroyed by dental equipment or hearing aids. And these deals are small steps toward building the Russian economy and a Russian-American economic partnership.

# APPENDIX G.

## TRW/TRADE AGGREEMENTS

This is a copy of the 2 September 1993 United States, Russian Space Trade agreement. It was this agreement the facilitated Lockheed-Martin (and TRW) arranging 16 satellite launches over the next several years. This joint-venture will infuse approximately one billion dollars into the Russian economy. This thesis holds that it is investment on this magnitude that is what will re-ignite the teetering Russian economy, and thus stabilizing the region, not Defense conversions.

Odyssey™ System Program
One Space Park,
Redondo Beach, CA 90278
310.814-5632 Facsimile

TRW

# Facsimile Message

---

Date: 26 May 1995

To: Lt. Tom Whalen
Code: NS688
FAX Number: [redacted]

Subject: U.S. Trade agreement w/ Russia.

From: [redacted]

__ page(s) to follow

---

*Comments:* Hope this helps. Please call me if you need anything.

[redacted] [redacted]

AUTHENTICATED TEXT AS SIGNED SEPTEMBER 2, 1993

# AGREEMENT BETWEEN THE GOVERNMENT OF THE UNITED STATES OF AMERICA AND THE GOVERNMENT OF THE RUSSIAN FEDERATION REGARDING INTERNATIONAL TRADE IN COMMERCIAL SPACE LAUNCH SERVICES

The Government of the United States of America and the Government of the Russian Federation (hereinafter the "Parties"),

Recalling the contributions of all space-faring nations in developing space launch industries,

Taking note of the importance of access to space for peaceful purposes,

Recognizing the utility of developing multilateral principles for government involvement in commercial space launch activities,

Bearing in mind that the Russian space launch sector is in the process of transition to operation based on market principles, and

Desiring to facilitate early Russian entry into the international commercial space launch market in a manner that encourages market-oriented reform in the Russian economy, including its space-launch sector; permits Russian entities to offer commercial space launch services to international customers at fair and reasonable prices, consistent with market principles; and does not disrupt the international market for commercial space launch services,

Have agreed as follows:

## ARTICLE I

## DEFINITIONS

For the purposes of this Agreement,

1. "Commercial space launch services" means the commercially offered or provided services to launch into space any spacecraft or satellite, including but not limited to communications satellites, for an international customer;

2. "Russian space launch service providers" means any entity, or agent or instrumentality acting on its behalf, permitted by the Government of the Russian Federation to provide commercial space launch services or the space launch vehicles for such services.

3. "International customer" means: any person; or any kind of corporation, company, association, venture, partnership, or other entity, whether or not organized for pecuniary gain, or privately or governmentally owned or controlled; or any governmental body, excluding the Government of the United States of America and the Government of the Russian Federation; or any intergovernmental organization or quasi-governmental consortium, including but not limited to INTELSAT, INMARSAT and their respective legal successors, that is the ultimate owner or operator of a spacecraft or satellite or that will deliver the spacecraft or satellite to orbit for use by such ultimate owner or operator.

4. "Contract" means (i) to agree or commit to the provision of commercial space launch services such that a launch

is effectively removed from competition in the international market, or (ii) any such agreement or commitment.

5. "Comparable commercial space launch services" means commercial space launch services offered to launch a spacecraft of the weight class that is the subject of a launch competition, taking into consideration specific factors that may be considered when evaluating the price, terms and conditions of such services, including, but not limited to, intended orbit, risk management, financing, satellite lifetime on orbit and integration costs.

6. "Inducements" means any incentive offered or provided to influence the purchase of commercial space launch services, including, but not limited to, the provision of any resources of commercial value unrelated to the launch service competition as well as offers to participate under favorable conditions in the implementation of defense and national security policies and programs, and development assistance policies and programs.

7. "Unfair business practices" includes the making of any offer, a payment, a promise to pay, a promise or offer of anything of value or to authorize the payment of anything of value, or any promise to make such payment, to any official, individual, or any other entity for the purpose of obtaining or retaining business for or with, or directing business to, any person; including making payment to a person while knowing that all or a portion of the payment will be offered, given or promised, directly or indirectly, to any official, individual or

any other entity for the purposes of obtaining or retaining business.

8. "Geosynchronous earth orbit" means an orbit approximately 19,400 nautical miles (35,900 kilometers) above the surface of the earth at the equator in which a payload completes one Earth orbit in a 24-hour period, holding a fixed position relative to the Earth.

9. "Geosynchronous transfer orbit" means a temporary orbit used to reposition a spacecraft or satellite into a geosynchronous Earth orbit.

10. "Low earth orbit" means an orbit approximately 100 to 1,000 nautical miles (185 to 1,850 kilometers) above the surface of the Earth.

11. "Principal payload" means a telecommunications satellite or, in the absence of a telecommunications satellite, any other spacecraft or combination of spacecraft.

## ARTICLE II

## SCOPE

This Agreement applies to commercial space launch services for launches to geosynchronous earth orbit or geosynchronous transfer orbit. Except for the pricing provision set forth in Article V, paragraph 2, this Agreement applies to commercial space launch services for launches to other orbits and suborbital launches. Nothing in this Agreement applies to launches of payloads for military purposes or for use in the non-commercial, civilian space programs of either Party, including programs using spacecraft or satellites made by and primarily for the use of members of the Commonwealth of Independent States and which are executed in accordance with existing cooperative agreements.

## ARTICLE III

## GENERAL PRINCIPLES

1. The Parties shall endeavor to ensure the application of market principles to international competition among providers of commercial space launch services, including the avoidance of below-cost pricing and unfair trade practices.

2. Neither Party shall engage in practices that distort competition among providers of commercial space launch services, including, but not limited to:

a. the provision of grants or subsidies that distort the production or operation costs for suppliers of commercial space launch systems;

b. the provision of inducements to international customers or potential international customers for commercial space launch services;

c. the offering of additional services such as insurance or reflight guarantees except on a par with prevailing rates and practices in international markets for comparable risk;

d. the provision of government-supported financing for commercial space launch vehicles or services except in accord with the terms of the OECD's "Arrangement on Guidelines for Officially-Supported Export Credits."

3. The Parties, including their agents and instrumentalities, shall not engage in unfair business practices to secure contracts to provide commercial space launch services. Each Party shall also endeavor to ensure that any entity or organization, subject to its jurisdiction whether or not owned or controlled by that Party, shall not engage in corrupt business practices to secure contracts to provide commercial space launch services.

## ARTICLE IV

## QUANTITATIVE LIMITS

1. During the term of this Agreement, Russian space launch service providers may contract with international customers to provide commercial space launch services for the launch of up to eight (8) principal payloads (in addition to the INMARSAT 3 satellite) to geosynchronous earth orbit or geosynchronous transfer orbit, except that the Russian space launch service providers may not conduct more than two (2) such launches in any twelve-month period. The Russian Federation will ensure a proportionate distribution of contracts by Russian space launch service providers within any two-year period.

2. Up to four launches of principal payloads to geosynchronous earth orbit or geosynchronous transfer orbit may consist of two principal payloads on a single launch vehicle.

The Parties shall jointly evaluate each such launch on a case-by-case basis and, taking into account the current situation in the international commercial space launch market, may decide by mutual agreement to treat that launch as a single principal payload for the purpose of Article IV, paragraph 1.

3. During the term of this Agreement, Russian space launch service providers may contract to provide commercial space launch services for up to three (3) launches of satellites to low earth orbit for the Iridium system.

4. In the course of consultations under Article VII, paragraph 1, the Parties shall consider jointly on a case-by-case basis and decide by mutual agreement on proposals by Russian space launch service providers for commercial suborbital launches and additional commercial launches to orbits other than geosynchronous earth orbit, geosynchronous transfer orbit, and low-earth orbit for the Iridium system, where there are competing comparable commercial space launch services.

## ARTICLE V

## PRICING

1. The contractual terms and conditions, including the price, of commercial space launch services offered or provided by Russian space launch service providers to international customers shall be comparable to the terms and conditions, including prices, for comparable commercial space launch services offered

by commercial space launch services providers from market economy countries, including the United States.

2. A bid or offer by Russian space launch service providers to provide commercial space launch services at a price more than seven and one-half (7.5) percent below the lowest bid or offer by a commercial space launch service provider from a market economy country, including the United States, shall require special consultations between the Parties under Article VII, paragraph 2, of this Agreement.

## ARTICLE VI

## TECHNOLOGY CONTROLS

1. Notwithstanding any other provision of this Agreement, the Parties shall negotiate and conclude prior to each launch a satisfactory technology safeguards agreement for each payload subject to a United States export license. Such technology safeguards agreement will be intended to facilitate the issuance of United States export licenses and shall include requirements relating to the control of the transfer of missile technology.

2. Any application for a United States export license will be reviewed on a case-by-case basis consistent with United States laws and regulations. Nothing in this Agreement shall be construed to mean that the United States is constrained from taking appropriate action with respect to any United States export license. The United States will use its best efforts to assure, consistent with United States laws and regulations,

authorization and completion of technology transfers subject to this Agreement.

## ARTICLE VII

## CONSULTATIONS

1. The Parties shall hold regular consultations on an annual basis to review and examine implementation of the Agreement and market developments in commercial space launch services.

2. The Parties shall hold special consultations on an urgent basis, prior to the conclusion of a contract for commercial space launch services if possible, at the request of either Party, if that Party has reason to believe that such contract or pending contract is inconsistent with the terms of this Agreement.

3. If, after consultations provided for under this Article, either Party determines that the provisions of this Agreement have been violated by the other Party, each Party reserves its right to take any action permitted under its national laws and regulations.

4. If, in the course of the annual reviews provided in paragraph 1 of this Article, the Parties agree that the market for commercial space launch services has developed more favorably than anticipated and if each Party is satisfied with the other Party's compliance with terms of this Agreement, the quotas set

forth in Article IV of this Agreement may be increased, by written agreement of the Parties.

## ARTICLE VIII

## INFORMATION EXCHANGE

1. The Parties shall exchange all information, including prices, terms and conditions offered for commercial space launch services, that is necessary to monitor implementation of the Agreement and carry out regular and special consultations. Such information shall be provided promptly, in any case no later than 30 days after receipt of a request by the other Party for such information, except that such information need not be provided prior to bids for commercial space launch services.

2. Parties shall protect the confidentiality of information exchanged, shall not use any such information for pecuniary gain and shall not release such information to third parties.

## ARTICLE IX

## TERM AND REVIEW

1. This Agreement shall enter into force upon signature and remain in force until December 31, 2000.

2. The Parties shall review the implementation of this Agreement after three years from its entry into force. Following such review, the Parties may, by mutual written agreement, terminate this Agreement.

3. Either Party may request negotiations to amend the terms of this Agreement to take account of developments in the international market for commercial space launch services and progress in the transition of Russia's space launch sector to a market basis.

4. Any contract entered into pursuant to this Agreement will continue to be subject to the provisions of this Agreement even if the duration of the contract extends beyond the expiration date of this Agreement. Termination of this Agreement will not affect contracts entered into pursuant to this Agreement.

DONE at Washington this second day of September, 1993, in duplicate in the English and Russian languages, both texts being equally authentic.

FOR THE GOVERNMENT OF
THE UNITED STATES OF AMERICA:

FOR THE GOVERNMENT OF
THE RUSSIAN FEDERATION:

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